DOCUMENT RESUME

ED 274 604 SO 017 588

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TITLE Bringing a Global Perspective to World Geography.
INSTITUTION Missouri Univ., St. Louis. Center for International Studies.; Ohio State Univ., Columbus. Mershon Center.
SPONS AGENCY Department of Education, Washington, DC.
PUB DATE May 83
CONTRACT G008103942
NOTE 142p.; For related document, see SO 017 587.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Cultural Awareness; Curriculum Development; Economics; Environmental Education; Global Approach; High Schools; Instructional Materials; Learning Strategies; Lesson Plans; Politics; *Social Studies; Units of Study; *World Geography
IDENTIFIERS *Global Studies

ABSTRACT

Nine units of study to help high school social studies teachers introduce a global perspective are contained in this booklet. Stressing interactions among regions economically, politically, and socially, the lessons are intended to help teachers reinforce basic skills and introduce new images of the world. Each lesson contains the following components: duration, purpose, objectives, background information for teachers, materials, vocabulary, instructional strategies, and instructional options. Simulations, maps, and discussion guidelines are included in most of the units. The lessons include: "Analyzing Our International Activities and Linkages"; "Introducing Students to Cultural Diffusion and Their Global Heritage"; "Introducing the Systems Concept: The Environment and Other Global Systems"; "Designing World Political Maps"; "Discussing the National Boundary: Invisible Lines--Political Reality"; "Drawing Political Boundaries: A Simulation"; "American Agriculture and the Global Food System"; "Ocean Boundaries and the Resources of the Sea"; and "Natural Resources and Dependence on the World Economy: Latin America." (TRS)

BRINGING A GLOBAL PERSPECTIVE SERIES

ROBERT B. WOYACH
Series Editor

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Bringing a Global Perspective to American Government
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Bringing a Global Perspective to World Geography
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BRINGING A GLOBAL PERSPECTIVE TO WORLD GEOGRAPHY

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FIELD TEST EDITION
May, 1983

These classroom materials were developed in conjunction with a project funded in part by the U.S. Department of Education's International Understanding Program (Contract No. G008103942).

ABOUT THE *BRINGING A GLOBAL PERSPECTIVE SERIES*

This set of supplementary classroom materials is part of the Bringing a Global Perspective Series. The purpose of this book, and other volumes in the series, is to provide instructional materials and strategies which teachers of high school social studies can use to enrich their curriculum.

The Origins of the Materials

During the fall and winter of 1981/82, fifteen Central Ohio high school teachers met weekly at The Ohio State University's Mershon Center. Under the direction of Dr. Robert Woyach, of the Mershon Center, and Dr. James Harf, of the Consortium for International Studies Education, which is headquartered at the Mershon Center, these teachers reviewed instructional materials originally developed for use in introductory college classes. Some of these materials, or learning packages, dealt with such issues as food, energy, terrorism, human rights, the environment and population. Others focused on the international community, such as the law of the sea, international boundaries, and foreign investment.

From these college materials, the teachers identified and then adapted readings and instructional activities which in their opinion could be useful within their own high school courses. Their criteria were purposefully broad so that the resulting materials would provide a flexible and valuable resource for high school teachers in varied classroom situations.

Bringing a Global Perspective to Basic Courses

The basic criterion for the teachers was that the materials be useful for bringing a "global perspective" to such courses as American government and history, economics, world geography and world history. Just what "bringing a global perspective" involves can vary considerably. A lesson in American history, for example, uses a central concept in global perspectives education, ethnocentrism, to show students how we can be ethnocentric with respect to people living in the past. Another lesson shows students their global heritage both in terms of the ethnic origins of their community and the global origins of many practices and ideas we take for granted in every-day life.

In economics a lesson focuses on the division of labor, a concept typically associated with the domestic economy. The concept is reinforced as students see how it applies to the international economy as well. In addition the lesson raises questions about security and equity, issues which are often more difficult to introduce within the domestic context.

In world geography and history, lessons introduce a "global" perspective by providing materials which stress interactions among regions. Others introduce new perceptual maps of the world, such as the Atlantic Basin, to break down mental barriers to perceiving the world in new ways. They introduce and reinforce such concepts as national boundaries. They show students environmental and social systems that make up our world.

Instructional Variety

The materials also enrich basic courses by providing resources for introducing greater instructional variety. Some of the lessons include student readings and materials for use by the instructor in designing classroom lectures. But most lessons also include a variety of other instructional techniques. These include simulations, small group work, decision-making exercises, charting and map-making activities, analysis of statistical data as well as map reading. Students work in large groups, small groups and individually. They do research, prepare position papers and present the results of their discussions and research in class.

Practical and Flexible Formats

The lessons are also designed to be self-contained. Supplementary materials needed to conduct the lessons are appended in easily reproducible form. Clear statements of purpose and objectives provide an orientation toward the goals of the lesson and suggest an agenda for testing. A section on Background Information for Teachers provides ideas as to where the lesson might fit within the course as well as substantive information of use in presenting the lesson in class. A tested step-by-step format gives the instructor a clear and concise image of how the lesson might be conducted. By breaking the lesson down into discrete steps, it also provides greater flexibility for experimenting and adapting the lesson to one's own style and situation.

Other Books in This Series

The *Bringing a Global Perspective* Series includes the following volumes:

Bringing a Global Perspective to American Government
Bringing a Global Perspectiv to American History
Bringing a Global Perspective to Economics
Bringing a Global Perspective to World Geography
Bringing a Global Perspective to World History

The lessons in these volumes have been edited and reviewed by curriculum consultants and teachers in the field. The purpose of this edition is to disseminate these materials and to obtain further reactions from teachers who have used them.

ACKNOWLEDGEMENTS

The effort and expertise of a great many people have gone into the shaping of the lessons in this volume. The Central Ohio high school teachers who participated in the Curriculum Seminar and who identified and drafted lessons deserve much of the credit for what is useful herein. This includes Ronald D. Flowers (Grove City High School), Daniel Rentel (Columbus City Schools) and Charles D. Wood (Gahanna City Schools).

The efforts of these teachers also relied on the previous work of editors and curriculum writers/developers associated with the Consortium for International Studies Education (CISE). Most of the readings and many of the activities contained in this volume were suggested by or contained in the following CISE learning packages.

Chadwick Alger and David Hoovler. "You and Your Community in the World."
John King Gamble, Jr. "A Simulation of Uses of the Ocean."
James Harf, Thomas Trout and Kenneth Dahlberg, editors. "Environment and the Global Arena." Global Issues Series.
James Harf, Thomas Trout and Raymond Hopkins, editors. "Food in the Global Arena." Global Issues Series.
George Lopez. "Dependence and Interdependence in the International System."
John Willmer. "The National Political Boundary." Learning Package Series. No. 15.

The entire *Bringing a Global Perspective* Series owes a debt to two others. Dr. James Harf helped direct the Curriculum Seminar in which the materials were developed. In the process Dr. Harf provided guidance as to the substance of the lessons and insights into instructional strategies. Dr. Richard C. Remy, also a co-director of the project, provided input on instructional strategies and is largely responsible for the creative format of the lessons themselves.

In addition to these individuals, the project has been aided by Edith Bivona, who provided secretarial assistance, and Peggy A. Robinson of the Mershon Center. Frank Schiraldi of the Ohio Department of Education and Louis Grigar of the Texas Education Agency have recruited teachers to test and review materials and have helped to develop strategies and workshops for disseminating them.

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BRINGING A GLOBAL PERSPECTIVE TO WORLD GEOGRAPHY:

KEY IDEAS FOR TEACHERS

World geography can be a dry catalog of distant places with little or no relevance to students. Or it can provide an opportunity for students to gain fundamental insights into the peoples with whom we share this planet and with whom we interact daily in economic, political and social activities vital to us all.

Bringing a Global Perspective to World Geography contains supplementary materials for teachers who want to provide the latter learning experience. The lessons help teachers three ways.

1. Introducing Students to Global Systems: The study of other countries and cultures in world geography can be made more meaningful and interesting if students proceed with an understanding of the ways in which they are linked to and affected by the peoples they study. Four lessons in this volume help students understand their global linkages and thus provide this foundation. The lesson "Analyzing Our International Activities and Linkages" provides students with an opportunity to discover and map those international activities (e.g., trade, travel, etc.) and systems which link them to the world. They can then begin to ask questions about the pattern of these linkages, questions which can only be answered by understanding the geography, culture and histories of other world regions. The lesson "Introducing Students to Cultural Diffusion and Their Global Heritage" takes an historical look at these global systems by introducing students to the evidence of culture sharing through history which pervades our daily routine. Finally, two lessons deal directly with the concept and nature of global systems per se. The lesson "Introducing the Systems Concept" helps students to learn the basic concept of a system and apply it in understanding the many global systems, especially the environment, of which we are a part. A second lesson "American Agriculture and the Global Food System" introduces students to the history and current trends within the global food system. They analyze data which shows the relationship of the American farmer to the world food system, and the impact of the world food trade on world hunger.

2. Reinforcing Basic Skills: Many of the lessons contained in this volume either provide direct or indirect opportunities to reinforce basic mapping skills in world geography. In the lesson "Designing World Political Maps" students are challenged to develop their own maps of the world. They learn geography while seeing both the possibilities and the limits which cartographers face in developing maps. The lesson "Discussing the National Boundary" provides the instructor with information and teaching resources which can be used to emphasize basic concepts about national boundaries: That they represent artificial divisions determined largely through political processes and are thus not immutable artifacts of man's human nature of the physical world. In "Drawing Political Boundaries" students have an opportunity to struggle with the problems of drawing good and stable boundaries. It emphasizes that political boundaries are rarely if ever perfect in a world characterized by a maze of ethnic and national loyalties, few of which conform either to geophysical features or the economic resources needed to support sovereign nation-states.

3. Introducing New Images of the World: Lessons in this volume also introduce students to new ways of looking at the world in both a political and a geographical sense. In this way the lessons help to break down barriers that our most common physical maps often create for understanding current international events and issues. For example, a lesson on "Ocean Boundaries and the Resources of the Sea" reinforces basic mapping concepts while at the same time introducing students to a map of the world which emphasizes the common and competing interests of the "Atlantic Basin" which ties Europe, the Americas and Africa together through a shared resource. Another lesson "Natural Resources and Dependence on the World Economy" helps students understand the concept of dependence in international politics. They analyze the reality behind the idea and learn how the concept of economic dependence has helped to unite the geographically disparate Third World. In the process students learn a key concept that conditions many international events, particularly relationships between the United States and the countries of the Third World.

These learning experiences can help teachers enliven the world geography course by making "the world" seem a part of the lives of students rather than distant and esoteric. At the same time, they

provide an opportunity both to reinforce basic concepts and skills, and to build on past study of world geography to better understand the forces which have bound countries and peoples together and which affect all our lives.

WORLD GEOGRAPHY

ANALYZING OUR INTERNATIONAL ACTIVITIES AND LINKAGES

DURATION: Approximately two class periods.

PURPOSE: To show students how they and their families are affected on a daily basis by people around the world.

To indicate differences in linkages between the students and various world regions and raise questions as to why these differences exist.

OBJECTIVES: Students will:

(1) Identify personal and family linkages to various parts of the world;

(2) Map those linkages on a world map;

(3) Suggest reasons for the pattern of global linkages they discover.

BACKGROUND INFORMATION FOR TEACHERS:

Most Americans have what might be called a "billiard ball" view of world affairs. They see the world as a set of closed national systems -- the billiard balls (e.g., the United States, the Soviet Union, Iran, England, etc.). These billiard balls or countries interact with each other. But they do so largely through their national governments. Even in common discourse this model of the world is evident. We talk about "Iran taking American hostages," or "the Soviet Union sending troops into Afghanistan."

The problem with this image of world affairs is that it is incomplete. Indeed national governments do make and implement foreign policies in the names of their respective countries. But world affairs is also conducted by multinational corporations, individuals and a wide variety of non-governmental organizations (e.g., churches, CARE, Boy and Girl Scouts, educational organizations, etc.).

The Importance of Non-governmental Activity

Recent energy shortages, trade balance deficits, and the troubled auto and steel industries have made Americans more conscious of the importance of everyday international involvement. But these problems are only an indication of the expansive system of trade, investment, communication and cooperation which have made people everywhere more dependent on the decisions and activities of others.

By and large this increased interdependence is the result of increased non-governmental rather than governmental activities. Declining sales in the auto and steel industries, for example, have resulted from a willingness by American consumers and users of steel to purchase foreign

made products if they are competitive in terms of quality, availability (including service), and price.

While non-governmental activities have always been part of the international system, their incredible increase in the past fifty years has made them of critical importance. Of particular importance is the extensive web of involvement which binds all Americans to the global economy. Between 1928 and 1977, the last year for which data are available, U.S. exports to the world rose from just over $5 billion to over $33 billion. World exports grew from $120 billion to almost $900 billion during that same time. Foreign investments by American corporations have grown even more startlingly. In 1929, American firms had investments in 330 foreign subsidiaries worth $7.5 billion. In 1980 over 3,000 American corporations had investments in over 23,000 foreign firms. These investments were worth over $200 billion and generated annual sales worldwide of over $2 trillion.

Student Learning

This lesson helps students discover this enormous system of international activities by identifying, inventorying and mapping those linkages which touch them personally or through their families and friends. In the lesson students are first asked to identify and portray the linkages of the class on a world map. They are then asked to inventory and map similar linkages for their families.

Through the inventory and mapping activities, students become more aware of the diversity of their linkages with other parts of the world. They can begin to discuss the importance of these linkages to them and their families. Thus they see that their international involvement and interests go well beyond those linkages portrayed in periodic newspaper headlines. They also see that the system of linkages contributes much of value to their lives. It does not merely create problems.

Students also see that their linkages with other parts of the world are not uniform. Rather, Americans are far more linked with some parts of the world than others. Further, our linkages with such places as Europe, Japan, Korea and Taiwan are typically different that those with Latin America, most of the rest of Asia and with Africa in particular. An analysis of these differences can allow the class to generate its own agenda for the course. Why is the pattern of activities different? Are there linkages with other parts of the world which are less obvious but equally or even more important? These are questions which require an understanding of the different parts of the world to be answered.

MATERIALS: The "Class Inventory of International Linkages" and the "Home Inventory of International Linkages;" a wall map of the world for mapping the class' international linkages; outline maps of world and pens of four colors for students to map family and community linkages.

ANALYZING OUR INTERNATIONAL ACTIVITIES AND LINKAGES

VOCABULARY: Interdependence, dependence, imports, exports, economic system, linkages, international activities.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Explain to the students that the way we typically think about the world, simply as a collection of countries, often blinds people to the variety of international activities and systems of which we are a part.

You might want to introduce the "billiard ball" image of the world and discuss how it limits our view of world affairs.

Step 2: Make sure the class understands the notion of an "international activity" or linkage. Have students identify ways in which they, their families, their community, and their states are or might be involved in international activities.

List rthese on the board. Suggest types of activities which the students miss. For example:

(a) Buy products made abroad (e.g., foreign cars).
(b) Buy products made with imported raw materials (e.g., coffee, cocoa, teak furniture, newspapers).
(c) Sell products made locally to people in other countries.
(d) Use or learn imported knowledge or technologies (e.g., take an algebra course).
(e) Meet someone from another country or write to someone in another country.
(f) Listen to a newsbroadcast about events in other countries.
(g) Travel abroad.
(h) Donate money or invest in a business in another country.

DEVELOPING THE LESSON

Step 3: Divide the class into teams of two or three students each.

Hand out copies of the "Class Inventory of International Linkages" or project a transparency of the questions on it.

Have the teams search for and list as many items for each question as possible or appropriate. Allow about 10 minutes.

Step 4: Have one group read its list of items and countries for the first inventory question.

As they do string yarn or draw lines on a world map connecting the countries to which the class is linked and the local community. Make the lines of yarn roughly indicative of the number of items found.

After the first group has identified its items, ask if other groups have found other items which fit under this category.

Step 5: Proceed through each question in this way, using a different color yarn or ink for each type of activity (i.e., for each question).

Step 6: Before the end of the class, hand out copies of the "Home Inventory of International Linkages" for students to complete as a homework assignment.

DAY 2

Step 7: Complete the map for the class' international activities from the previous day if necessary.

Step 8: Then hand out outline maps of the world and have students map the linkages they indicated on their Home Inventory of International Activities in a similar way. Students should have access to atlases or globes to help them locate countries. They should also have different colored pencils or pens to indicate various types of linkages.

CONCLUDING THE LESSON

Step 9: Discuss the pattern of international linkages revealed in the class profile and the home inventories. You might ask:

1. With which areas of the world does the class appear to be most highly linked in each of the categories of activities (i.e., products, heritage, communication, travel)? How might you explain this?

2. What differences are there from category to category? How might these differences be explained?

3. Are there differences in the types of products we get from different regions? How might you explain these differences?

4. Do you think the map of your dependence on imported goods (product linkages) is complete? What types of products are likely to be missing from it? From what parts of the world are these products most likely to come and why?

INSTRUCTIONAL OPTIONS:

1. During the remainder of the year, reintroduce the map of the class' international linkages to introduce each world region you study. Have the class prepare a list of questions or hypotheses about the culture, geography, economy or politics of that region which are suggested by their linkages and which they can answer or test as they study the region.

2. As you study the different world regions and countries in class, have students look for types of raw materials which these regions or countries export to the United States. Map these hidden imports along with the other product linkages and discuss how the maps of the class' international linkages change as a result.

Class Inventory of International Linkages

1. Product Linkages. Have you used or consumed any products today which were imported from another country? (Hint: Think through your day so far. Identify things you have used, worn, eaten, etc. Were they made or grown abroad? Are there things in your classroom from other countries? Look for labels which show country of origin.)

Items	Country of Origin

2. Heritage. Do you have a sense of having roots in any other country or region because of your ethnic or racial heritage?

Nationality or Ethnic Group	Country/Region

3. Travel. Have you ever traveled or lived in another country?

Purpose of trip	Country

4 (a) Communication. Have you had contact (e.g., letters, telephone calls, personal conversations) with people from other countries or people living in other countries (including Americans) during the past year?

Type of Contact	Country

(b) Communication. Have you had contact with other countries through the media (e.g., t.v., radio, newspapers) in the past 24 hours?

Media Source	What Was the Story About	Country

Home Inventory of International Linkages

1. Products. What products from other countries are in your home or has your family consumed during the past day?

Type of Product	Country of Origin

2. Travel. Have members of your family traveled or lived abroad during the past several years?

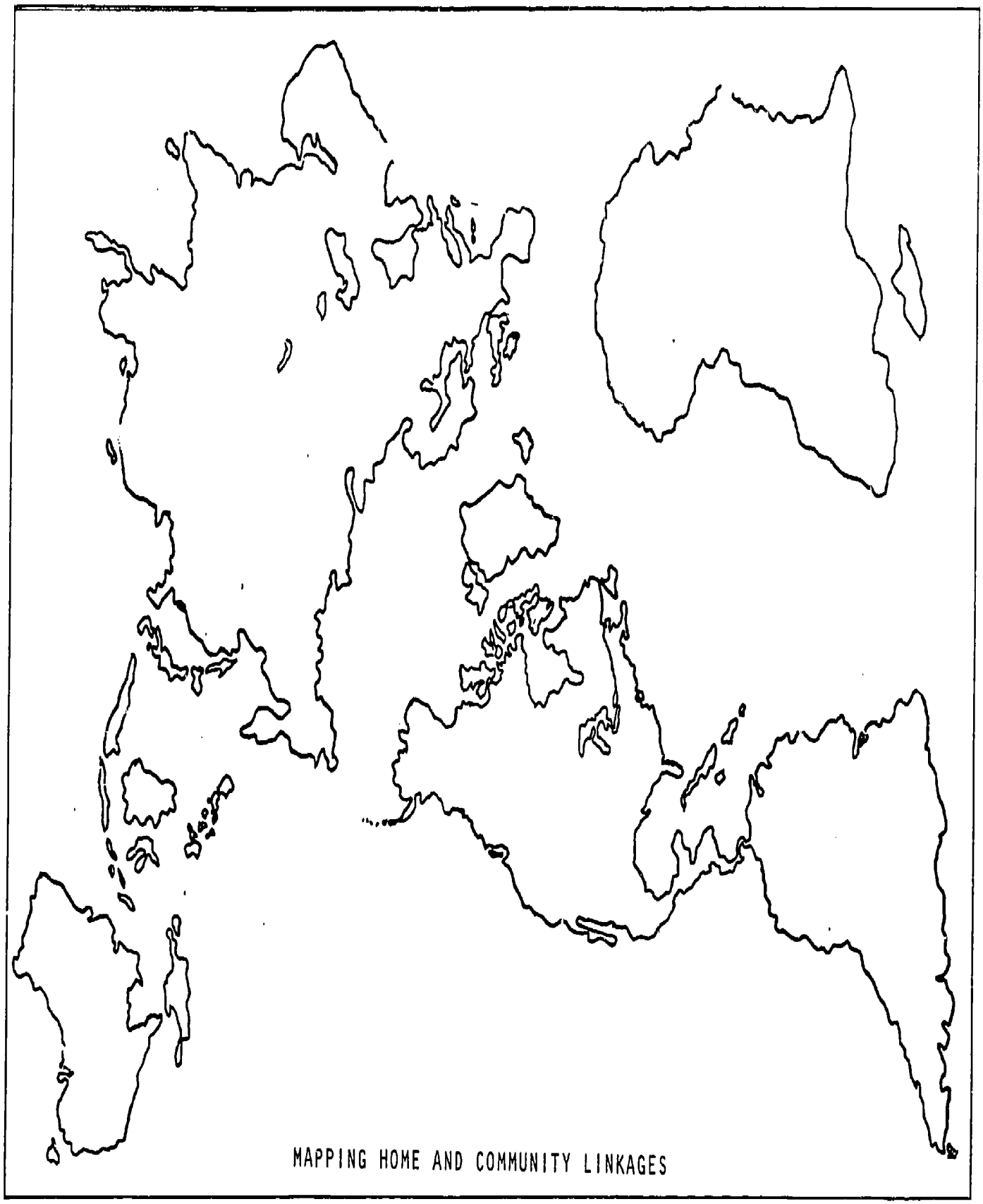
General Purpose of the Trip	Country

3. Communication. Have members of your family had contact (e.g., letters, telephone calls, telegrams, telex, personal conversations) with people from other countries or people living in other countries (including Americans) over the past year?

Type of Contact	Country

4. Culture Sharing. Skim through the Yellow Pages of the telephone book. What evidence of "culture" sharing is there? Are there products or services we consume which embody other cultures or which indicate that other peoples have come to share parts of our culture?

Product/Services	Country



MAPPING HOME AND COMMUNITY LINKAGES

WORLD GEOGRAPHY

INTRODUCING STUDENTS TO CULTURAL DIFFUSION AND THEIR GLOBAL HERITAGE

DURATION: Approximately two class periods.

PURPOSE: To identify ways in which our culture has been influenced by other cultures throughout the world.

To introduce students to the concept of spacial diffusion.

OBJECTIVES: Students will:

(1) Identify items and practices which originated abroad but which are part of American culture today;

(2) Develop a connotative definition of "foreign" and discuss how people use such concepts to differentiate and unify their society;

(3) Identify ways in which cultures come into contact and are influenced by each other;

(4) Map the international origins of practices and items which have become part of American culture.

BACKGROUND INFORMATION FOR TEACHERS:

Most people, and all societies, have attitudes and beliefs about foreign people, customs and ideas. Typically foreign has been synonymous with different, strange ... even suspicious and dangerous.

The Functions and Dysfunctions of our Attitudes Toward Foreign Things

These attitudes toward things foreign can in a sense be functional within a society. They draw an unambiguous line between "us" and "them" which individuals dare not cross. This can be important for a society that is weak, new, or not significantly different from its cultural neighbors. Such attitudes also have psychological value. They help some individuals avoid the ambiguity created by contact with very different cultures. If foreign cultures are inferior by definition, the alternatives they pose for life-styles cannot challenge the validity of the individual's own life-style.

Unfortunately, these attitudes are also dysfunctional for societies within an interdependent world. They make it more difficult for individuals, and society's leaders, to develop policies of cooperation needed to respond to global problems and issues. They inhibit people from learning about the rest of the world, and thus contribute to their inability to compete in the world market or exercise leadership in the world community. They also inhibit efforts to learn about the ways in

which others have responded to common problems (e.g., water shortages, energy scarcity). Solutions discovered by "inferior" or even "different" people may seem to hold little value for the "superior" culture.

Contact with Foreign Ideas and Practices

This attitude toward things foreign also affects the ways in which people around the world have dealt with their "global heritage." All cultures have borrowed ideas and practices from other cultures with which they have had contact. Such borrowing is hardly new. Throughout history peoples have been brought together in various ways. History books provide ample descriptions of wars and conquests. Most of these have resulted in cultural diffusion. Usually the vanquished have borrowed from the conqueror, but not always. In Chinese history, the conquerors (e.g., the Mongols and the Manchus) have often borrowed the most.

Peoples throughout history have also been brought into contact through trade. Extensive trading systems characterized the ancient Mediterranean. But cultures with less advanced transportation and communications technologies have also traded extensively (e.g., the North American Indians). Peoples have also been brought into contact through travel and exploration (e.g., the journeys of Japanese monks to China and India in search of religious knowledge; the seven voyages of exploration sent by the Chinese Ming Emperors in the 15th century). Today cultures are brought into vivid contact through the mass media (e.g., American television shows, British movies, television coverage of events in Vietnam, the Middle East and Africa).

The Domestication of Foreign Ideas

Most cultures deal with their global heritage in two ways: they exaggerate their culture's contribution to the global community, and they "domesticate" borrowed ideas and practices.

The stereotypic stories of Russians claiming responsibility for one invention after another actually reflects a natural tendency for most peoples. Americans too tend to exaggerate the extent to which inventions, technologies and scientific advances are American or at least purely American.

By contrast, most people tend to domesticate foreign ideas and practices which they borrow. The foreign origins of new ideas can be ignored from the beginning (e.g., the dependence of the early American space and missile program on German scientists and knowledge). Or they can simply be forgotten with the passage of time or in the complexity of the innovative process (e.g., the development of the Bessemer process for making steel -- named after the Englishman John Bessemer, and the development of television).

INTRODUCING STUDENTS TO CULTURAL DIFFUSION AND THEIR GLOBAL HERITAGE

Student Learning

In this lesson students are given an opportunity to articulate their images of "things foreign" and to discuss both the ways in which ethnocentrism benefits and hurts a society. They also share their knowledge or images of their global heritage, though most examples of things borrowed from other cultures are likely to be of relatively recent vintage (e.g., soccer).

Then students are shown their hidden heritage through the article "One Hundred Percent American." They see not only the extent of borrowing, but also its global nature. They perceive that this heritage has emerged over centuries, not just decades.

The lesson also provides an opportunity to teach basic concepts in world geography. It can be used to talk about spacial and cultural diffusion. It can be used to develop map skills and an awareness of where in the world different inventions and ideas have originated. It may thus be profitably used to introduce the course, providing a rationale for studying world geography. It may also be used somewhat later as mapping and other concepts are introduced.

MATERIALS: Article by Ralph Linton "One Hundred Percent American;" outline map of the world.

VOCABULARY: Cultural and spacial diffusion, ethnocentrism.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Write the following column headings across the chalkboard: (1) Foreign things; (2) Things from other Cultures (which we use); (3) Things from American culture (which others use).

Then have the students, working individually or in groups of 2 or 3, list at least five items which fit under each heading as follows:

(a) Foreign Things: List other adjectives or words you associate with "foreign" (i.e., what words pop into your mind when you hear the word foreign?).

(b) Things from other Cultures: List ideas, practices, inventions, goods, sports -- in short anything which originated in another culture but which Americans commonly use.

(c) Things from American Culture: List anything which originated in America but which is used or done by people in other cultures.

Step 2: At random, have students read their lists, writing items on the board as they do.

DEVELOPING THE LESSON

Step 3: Explain to the class that almost no culture in the world today has not borrowed heavily from other cultures. This borrowing goes back, at least on a small scale, to the very beginnings of history. Still, people attempt to protect their sense of uniqueness and cultural integrity by ignoring their global heritage or by exaggerating what their culture has contributed to it.

Step 4: Discuss the students' lists of adjectives associated with "Foreign Things" in this light. You might ask:

(1) How is the idea of "foreign" and "foreigner" used to maintain a sense of being unique?

(2) Are the attitudes related to the word foreign generally negative or positive? What impact do you think that has on the average person when they think about world affairs?

(3) Do you think that this attitude toward "foreign" has good or at least useful aspects? How do you compromise between negative attitudes toward foreign and positive attitudes toward your own culture and society?

DAY 2:

Step 5: Remind students of their lists from the previous day. Remind them also that all cultures have borrowed heavily from other cultures throughout history.

Explain that cultures are influenced by others through contact. The contact has usually occurred through (1) war or conquest, (2) trade, (3) travel or exploration, (4) immigration, or (5) the mass media or other communications media.

Define cultural and spacial diffusion and explain how geographers use these concepts to talk about how cultures come into contact and borrow from each other.

Step 6: Hand out and have students read "One Hundred Percent American" by Ralph Linton.

Step 7: Go over the reading a second time, this time identifying those items or customs described in the essay which come from abroad. List them and their origins on the board.

CONCLUDING THE LESSON

Step 8: Discuss the list and the reading with the class. You might use the following exercise and questions:

1. What are the major differences between Linton's list of things borrowed by American culture and the class' list from yesterday? Those differences might have been expected. Why?

2. The article by Linton is full of concrete examples of cultural elements developed in one place which are diffused to others. This same kind of cultural diffusion continues today, if anything at a more rapid pace.

   The following are examples, all basically factual, of how cultures are spreading today. For each, suggest why the trait might ultimately be borrowed or why it might not.

   (a) A Japanese high school student returns home after spending a year in the United States. She returns with a pair of new denim jeans, much to the consternation of her parents and the amazement of her skirted friends back in Tokyo.

   (b) A promoter schedules a tour of the United States for a new British punk rock group. It is the first time punk rock will be heard by American teenagers and adults. If it does not catch on, the promoter may be ruined financially.

   (c) A young black preacher named Martin Luther King reads a book on the theories of non-violent protest and change developed by the Indian Mahatma Gandhi.

   (d) Through necessity and practice Japanese automakers design and develop small fuel-efficient cars and attempt to market them around the world, including the United States. Their cars run counter to the world's apparent taste for large cars with fuel-using options and sporty, high performance engines.

3. Linton's list of our cultural borrowing is evidence that Americans truly have a global heritage, whatever our personal backgrounds. In what sense is it global? Are there examples of cultural traits, innovations or technologies from every continent (Asia, Europe, Africa-Egypt, the Americas)?

4. As we discussed yesterday, people tend to forget or ignore their global heritage in part to make their own culture seem special and worthy of pride. Knowing what you do about your global heritage, do you see any reason not to be patriotic -- not to be proud of being an American? Is there a necessary conflict between patriotism and recognition of our global heritage? Is there a necessary link between patriotism and ethnocentrism -- that is believing one's own culture is superior to any other?

Step 9: Hand out copies of the "Outline Map of the World." As a homework assignment, have students map the origins, and where possible the routes of diffusion, of the items and practices Linton describes.

INSTRUCTIONAL OPTION:

Have students look up particular items from their original lists of things borrowed by or from Americans (Step 1) in encycolpedia or other sources to find their origins and their spacial diffusion.

ONE HUNDRED PER-CENT AMERICAN

There can be no question about the average American's Americanism or his desire to preserve his precious heritage. Nevertheless, some insidious foreign ideas have already wormed their way into our civilization.

Thus, observe the patriotic American. Dawn finds him garbed in pajamas, a garment of East Indian origin. He is lying in a bed built on a pattern which originated in either Persia or Asia Minor. He is muffled to the ears in un-American materials: cotton, first domesticated in India; linen, domesticated in the Near East; wool from an animal native to Asia Minor; or silk whose uses were first discovered by the Chinese. All these substances have been transformed into cloth by methods invented in Southwestern Asia. If the weather is cold enough he may even be sleeping under an elderdown quilt invented in Scandinavia.

On awakening he glances at the clock, a medieval European invention. Late, he rises in haste, and goes to the bathroom. Here, if he stops to think about it, he must feel himself in the presence of a great American institution. He will have heard stories of both the quality and frequency of foreign plumbing. In no other country does the average man perform his ablutions in the midst of such splendor.

But the insidious foreign influence pursues him even here. Glass was invented by the ancient Egyptians. The use of glazed tiles for floors and walls was developed in the Near East. Procelain was invented in China. And the art of enameling on metal was developed by Mediterranean artisans of the Bronze Age. Even his bathtub and toilet are but slightly modified copies of Roman originals. The only purely American contribution to the ensemble is the steam radiator, against which our patriot very briefly and unintentionally places of posterior.

In his bathroom the American washes with soap, invented by the ancient Gauls. Next he cleans his teeth, a subversive European practice which did not invade America until the latter part of the eighteenth century. He then shaves, a masochistic rite developed by the heathen priests of ancient Egypt and Summer. The process is made less of a penance by the fact that his razor is of steel, an iron-carbon alloy discovered in either India or Turkestan. Lastly, he dries himself on a Turkish towel.

Returning to the bedroom, the unconscious victim of un-American practices removes his clothes from a chair, invented in the Near East, and proceeds to dress. He puts on close-fitting tailored garments whose form derives from the skin clothing of the ancient nomads of the Asiatic steppes. He fastens them with buttons whose prototypes appeared in Europe at the close of the Stone Age. This costume is appropriate enough for outdoor exercise in a cold climate. But it is quite unsuited to American summers and heated houses. Nevertheless, foreign ideas and habits hold the unfortunate man in thrall even when common sense tells him that the authentically American costume of gee string and moccasins would be far more comfortable.

He puts on his feet stiff coverings made from hide prepared by a process invented in ancient Egypt and cut to a pattern which can be traced back to ancient Greece. Then he makes sure that they are properly polished, also a Greek idea. Lastly, he ties about his neck a strip of bright-colored cloth which is a vestigial survival of the shoulder shawls worn by seventeenth-century Croats. He gives himself a final appraisal in the mirror, an old Mediterranean invention, and goes downstairs to breakfast.

Here a whole new series of foreign things confronts him. His food and drink are placed before him in pottery vessels, the popular name of which - China - in sufficient evidence of their origin. His fork is a medieval Italian invention. His spoon is a copy of a Roman original. He will usually begin the meal with coffee, an Abyssinian plant first discovered by the Arabs. The American is quite likely to need it to dispel the morning-after effects of overindulgence in fermented drinks, invented in the Near East; or distilled ones, invented by the alchemists of medieval Europe. Whereas the Arabs took their coffee straight, he will probably sweeten it with sugar, discovered in India; and dilute it with cream. Both the domestication of cattle and the technique of milking originated in Asia Minor.

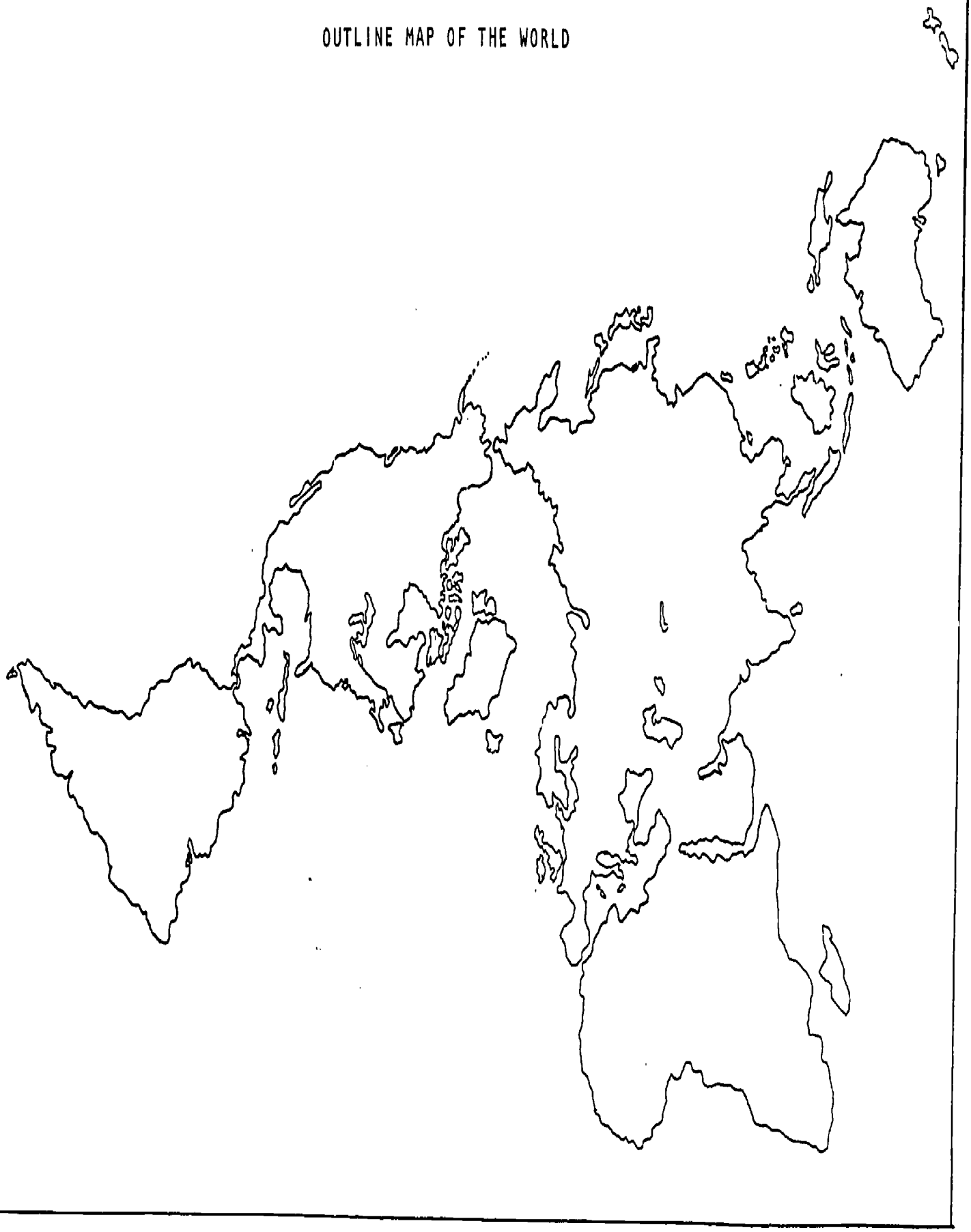
If our patriot is old-fashioned enough to adhere to the so-called American breakfast, his coffee will be accompanied by an orange, domesticated in the Mediterranean region, a cantaloupe domesticated in Persia, or grapes domesticated in Asia Minor. He will follow this with a bowl of cereal made from grain domesticated in the Near East and prepared by methods also invented there. From this he will go on to waffles, a Scandinavian invention, with plenty of butter, originally a Near-Eastern cosmetic. As a side dish he may have the egg of a bird domesticated in Southeastern Asia or strips of the flesh of an animal domesticated in the same region. The latter will have been salted and smoked by a process invented in Northern Europe.

Breakfast over, he sets out for work. If it looks like rain, our patriot puts on outer shoes of rubber, discovered by the ancient Mexicans. He will also take an umbrella, invented in India. He then sprints for his train - the train, not sprinting, being an English invention. At the station he pauses for a moment to buy a newspaper, paying for it with coins invented in ancient Lydia.

Once on board the train, our patriot settles back to inhale the fumes of a cigarette invented in Mexico, or a cigar invented in Brazil. Meanwhile, he reads the news of the day, imprinted in characters invented by the ancient Semites by a process invented in Germany upon a material invented in China. He scans the latest editorial pointing out the threat which foreign ideas pose to our American way of life. In total agreement our patriot will not fail to thank a Hebrew God in an Indo-European language that he is a one hundred percent (decimal system invented by the Greeks) American (from Americus Vespucci, Italian geographer).

From: Ralph Linton, One Hundred Per-Cent American," The American Mercury, Vol. 50 (1937), pp. 427-429.

OUTLINE MAP OF THE WORLD



WORLD GEOGRAPHY

INTRODUCING THE SYSTEMS CONCEPT: THE ENVIRONMENT AND OTHER GLOBAL SYSTEMS

DURATION: Approximately three class periods.

PURPOSE: To introduce or reinforce the concept of a system and show how it can be used to understand various social and ecological relationships.

OBJECTIVES: Students will:

(1) Define the terms system, interdependence and eco-system;

(2) Identify examples of systems and explain how their parts are interdependent;

(3) Explain the consequences of altering the parts of an eco-system;

(4) Identify political responses to changes which threaten to damage an eco-system.

BACKGROUND INFORMATION FOR TEACHERS:

The concept of a system was first developed in the physical and biological sciences to explain and analyze the interaction of specialized components joined together in a complex organism. The concept of a system helped to draw attention not only to the roles of parts within the whole, but also to the interdependence of those parts.

The systems concept has been among the most important of the concepts borrowed by social scientists from the physical sciences within the past [illegible]ty years. The concept has been used to describe and analyze social phenomena ranging from local traffic patterns to the interaction of governments in the world community. It has even become basic to popular images of economic relationships (i.e., the economic system).

The Global System

International politics have long been analyzed in terms of its systemic qualities. Political scientists have even attempted to identify different types of international systems (e.g., bi-polar, multi-polar, complex conglomerate) to better understand the relationship between the structure of the international system and the probability of war.

In fact, the international system should probably be seen, not as one system, but as many. Nation-states, represented by the national governments, form a kind of soci-political system in their dealings with each other. The group interaction has the qualities of a system. Different nation-states have particular roles within the group. They also have established relationships and patterns of acting toward each

other. When these roles or relationships begin to change, the "system" begins to break down. Tension and even conflict result, until a new system emerges.

However, this intergovernmental system is not the only international system. In fact, political scientists have come to see that there are many intergovernmental systems. Different systems handle different issues within the world. For example, the system which deals with ocean issues is different than the system which deals with trade issues. The trade system is different than that which deals with issues of nuclear war.

There are also functional systems within the world which are different than the inter-governmental systems. The international trading system primarily includes the producers, consumers, banks, insurance companies and transport companies which conduct the trade. National governments enter into the system only when they place restrictions on trade or try to facilitate trade.

The Environment as a System

One of the most basic of the global systems is not a social, political or economic system at all. It is the eco-system.

Most Americans tend to understand "the environment" as something "out there" and separate from their everyday lives. It may be picturesque wilderness areas, clear flowing mountain streams, exotic big game in national parks, or distant steaming tropical jungles. This view (which is shared by the Europeans) is in sharp contrast to the way in which traditional societies and ecologists understand the environment. To ecologists, the environment is a complex web of relationships and interdependencies between each part and its surroundings. Humans, for example, are part of their surroundings. We influence them and are influenced by them. Traditional societies knew that they were a part of their environment and that their environment was part of them. They understood that both were mutually interdependent for their long-term survival. Industrial society lost this traditional sense of environment. We have only recently begun to appreciate the similar but more sophisticated understandings of the ecological and environmental sciences.

Various themes lie at the heart of the environmental movement and environmental education. The conflict among various private and public groups, such as public interest groups, states and multinational corporations to control, exploit, or manage commonly held resources is a major theme. Another theme emphasizes that not only resources, but threats to the environment are shared by all. Various groups seek to minimize the threats which their use of the environment poses to themselves, without regard for the ways in which they may increase risks or damage to others. A third theme is that resources are ultimately limited both in their availability and their useful quality.

We have become most aware of this in terms of the finite amounts of fossil fuels that are available. We are also learning that as we use up the energy resources which are easy to obtain, we have to use more and more energy to extract, transport and process those fossil fuels found in more remote places (like the North Sea or Alaska) or of lower grade (shale oil or tar sands). Our biological resources are also limited in several fundamental ways, as are the great reservoirs of air and water.

The Global Environment

The old saying that a picture is worth a thousand words has certainly proved to be the case with satellite photographs of the earth. They have for the first time given us a visual sense of our global home. They have helped lead to a realization that in spite of its apparent vastness and diversity our delicate blue planet is indeed a beautiful whole, floating in space. Phrases such as "ecosphere" and "spaceship earth" have taken on a new dimension as a result. More than ever people can appreciate the interrelatedness of the basic land, water, and atmospheric systems. The oceans and seas interconnect and have currents flowing in graceful patterns around the continents. Climatic, weather, and cloud patterns follow these and the large terrestrial features: mountains, deserts, forests, canyons, lakes, and so on. One can appreciate more clearly than ever before that pollution of air or water systems becomes part of these great flows. Thus pollution crosses such artificially drawn lines as national boundaries as though they are not there -- which in a real sense they are not. The space photographs show the ecosphere as it is, not as men would like to have it on their maps -- divided up by lines into areas which one or another group seeks to control and exploit.

Student Learning

This lesson is designed to introduce students to the concept of a system primarily through consideration of the global environment. Students examine relationships within various systems. They relate this understanding to potential outcomes when parts of the system are altered or disrupted.

A final activity, the Tragedy of the Commons Game, provides students with a hands-on experience in eco-system management. Personal interests initially conflict with the common goal of preserving that commons, an elementary eco-system. Students see the cumulative effects of private decisions to use the eco-system. They thus see the concept of interdependence played out in a way which emphasizes the need for private interests to cooperate if the common interest is to be achieved.

MATERIALS: The student reading "Global Systems: Everything is Connected to Everything Else;" charts depicting "The Global Coffee Trade" and "The Carbon Cycle;"simulation materials "Scenario of a Tragedy;" "Rules for the Commons Game," "The Commons Game Talley Sheet," and "Calculating the Cost of Overgrazing;" white drawing paper for student projects.

VOCABULARY: System, interdependence, functions, closed system, open system, eco-system, environment, commons system, carrying capacity.

INSTRUCTIONAL STRATEGIES:

Step 1: The day before you begin this lesson, hand out and assign as homework, the reading "Global Systems: Everything is Connected to Everything Else."

DAY 1 OPENING THE LESSON

Step 2: Bring to class a common "system" found around the home. A flashlight is an excellent system to use. It is simple and easily assembled and disassembled.

Begin the lesson with the parts of your system scattered around the desk. Ask the students to identify the system.

Then ask the students if your system will operate in its present disassembled state. Point out that all you have now are many parts, not a system. Have the students define the term "system" from the previous night's reading.

Step 3: Ask the students what you must do before the parts of your system actually form a system. Reassemble your system and demonstrate it. Emphasize again that it is now a system because all the parts are connected and working together.

Write the term "interdependence" on the board. Explain to the students that interdependence is the relationship of the parts to one another and to the whole. To accomplish their purpose within the system, they depend on their connection to and the proper functioning of all the other parts.

DEVELOPING THE LESSON

Step 4: Explain that we are surrounded by systems and that in fact we are parts of many systems ourselves.

Have the students identify examples of systems, including social systems of which they are a part. List the examples on the board.

As they identify their examples of systems have the students explain why their example fits the definition of a system. For selected examples, have students identify the parts of their system and how those parts work together.

Step 5: Have the students define the terms "closed" and "open" systems from the reading. Referring back to the list of systems identified in the previous step, have students identify whether these are examples of open or closed systems and why.

Step 6: Hand out a piece of white drawing paper to each student. Instruct them to illustrate on the paper, either through a drawing or a collage, an example of a system. It may not be an example identified in class.

Have the students clearly label each part of the system. On the back of the paper, they should identify their system and in a paragraph explain whether it is an open or closed system and what might happen to the system if one of its parts were changed or removed.

The students should complete their projects as homework.

DAY 2

Step 7: Explain that the earth itself is a closed system, made up of a number of open and closed systems operating at the same time. Many of these systems are natural systems. Others are man-made.

Project a transparency of the chart depicting the "Global Coffee Trade." Explain that the global economic system is an example of a man-made system. This particular chart illustrates a simplified picture of part of that system, namely the coffee trading system.

Have students identify the parts of the global coffee system from the chart and suggest the relationship -- that is how they rely on each other in order to achieve their goals within the system. Ask students if they think this is an open or a closed system.

Step 8: Explain that one of the most obvious and critical of the global systems on which we depend is a natural system: the eco-system. Point out that the eco-system is also made up of a variety of systems operating together.

Project a transparency of the carbon cycle as an illustration of one important system within the overall global eco-system. Have the students identify the parts of the carbon system. As they do, ask them to suggest how the entire planet is bound up within this system.

Step 9: Ask the students to identify Barry Commoner's four laws of ecology from the initial reading. Then ask them to suggest ways in which the four laws are reflected in the carbon cycle.

DAY 3 CONCLUDING THE LESSON

Step 10: Explain to the students that they are going to spend the day simulating and discussing a small-scale system which is part economic and part ecological in nature. The successful operation of this system will depend on the decisions they make, and whether their economic goals within the system are compatible with the ecological laws which govern the system.

Step 11: Divide the class into groups of two or three students each. Each of these small groups will operate as a single unit within the Commons Game simulation (i.e., as a herd-owning family).

Explain the rules of the simulation by projecting a transparency of the "Rules for the Commons Game." Give each group a copy of the "Talley Sheet" and then read through the "Rules" as a class.

Step 12: Play the Commons Game. Allow no more than 30 seconds for the groups to decide how many additional cattle they will buy each round. After each round calculate the cost of overgrazing, if any, using the table contained on the sheet "Calculating the Cost of Overgrazing." Do not allow any communication between groups.

When the class first reaches the carrying capacity of the field, stop and explain what a "carrying capacity" is. Apply the idea to other situations of commonly held resources (e.g., air pollution, pollution of lakes). Explain precisely why their profits have dipped (i.e., less grass means less healthy cattle and less milk and butter).

If you enforce the maximum penalty for overgrazing in two consecutive rounds, you should announce that an anthrax epidemic has killed two-thirds of the herd. Have each group adjust their personal herd total (line 12 of the Tally Sheet) accordingly. (That is, the figure on line 12 for the second round for which the maximum penalty is imposed should be 1/3 of the total for the previous round.)

Step 13: When all five rounds of the game have been played, discuss the results of the game with the class. You might ask:

1. Was the commons arrangement a system? Why? What were the economic goals of the families in the system? How did the laws of ecology constrain or limit these goals?

2. Did a tragedy occur in the game, or is it likely that one would have eventually? If so, what laws of ecology were not heeded? How did the system break down?

3. Which groups bought additional cattle? Did you continue to do so even after the carrying capacity of the pasture had been reached (i.e., after the cost of overgrazing was first imposed)? Why? Why might it be reasonable to do so on economic grounds?

4. Did any of you voluntarily limit the size of your family herds? Was this a reasonable thing to do at the beginning of the game, or even after the carrying capacity had been reached? Why or why not? How is the systemic nature of the commons demonstrated to good and self-sacrificing citizens such as yourselves?

5. What could the village do to avoid the tragedy of the commons?

INSTRUCTIONAL OPTIONS:

Have the students complete a research paper on an environmental issue facing the world today. They should describe the system or systems at work. The paper should also analyze the problem in terms of Commoner's four laws of ecology if possible. The students should note the suggestions which have been made for solving or responding to the problem.

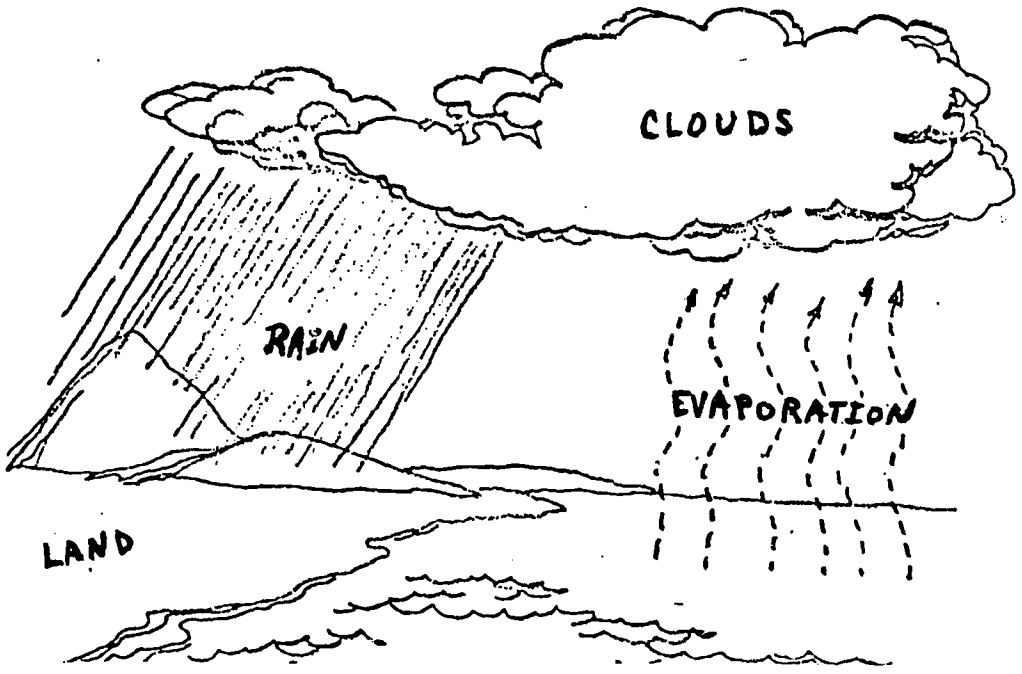
GLOBAL SYSTEMS: EVERYTHING IS CONNECTED TO EVERYTHING ELSE

Geographers are concerned with systems. A system is a working thing made of two or more parts. In order for a system to operate properly, the parts must work together in a certain way. All parts must do their jobs. If just one part breaks down or slows down, or stops working, the entire system is affected.

Open and Closed Systems

There are two kinds of systems: open systems and closed systems. An open system cannot operate on its own. It may need a starter, or it may need help to keep it going. A flashlight is an open system. It must be started by an outside source. Its bulb and batteries must be replaced when they wear out. Because a flashlight cannot operate on its own, it is an open system.

Closed systems, on the other hand, operate on their own. They start themselves and keep going by themselves. They need no outside source to operate. In many cases outside "help" can damage or even destroy a closed system. The Earth's water cycle is a closed system. Can you describe this system, using the illustration below?"



Closed System

As you are beginning to see, systems depend upon their parts. In both closed and open systems, the parts of the system are interdependent. That is, the parts are dependent upon one another to make the system work.

The Ecosystem Called Earth

Our Earth is a system. Earth's parts are its animals, plants, soil, minerals, water, air and birds. People are also a part of the Earth system.

As you have seen, a system is made up of parts which must work together. If only one part breaks down or is changed, the whole system is affected.

Our planet is a system of many parts. This Earth system is called the ecosystem. The study of the ecosystem is called ecology. The first part of both words eco - comes from a Greek word meaning "house." There are similarities between a planet and a house. Both provide a shelter for people. Both need to be taken care of. And both can be destroyed easily by the people who live there.

For millions of years before humans lived on this planet, Earth was a closed system. All parts of the system worked together without outside help or interference. When people began to live on Earth they started to disturb the closed system. As people developed technology, Earth's system was disturbed more and more. Fuels such as coal and petroleum, which took nature millions of years to produce, were taken from the ground and used immediately. In many cases the animal life and plant life were chased away or destroyed in the process of mining and drilling. Layers of rich top soil were dug up and destroyed.

Four Laws of Ecology

Barry Commoner is concerned about how people take care of the "house" called Earth. In a book called The Closing Circle, he gives four laws of ecology. These laws can help us understand our ecosystem and our responsibilities to it.

The first law of ecology is this: "Everything is connected to everything else." Think of the Earth and every living creature on it as a system. It may be difficult to believe that if just one part is missing the whole system can be upset. Consider this old story. There once was a great battle. The two armies were closely matched, about equal in strength. (Think of each army as a system). One army ran out of nails. Only one nail was needed to put a shoe on the general's horse. But without that nail, the horse lost the shoe while the battle was raging. Because of the lost shoe, the horse slipped and broke its leg. Because of the crippled horse, the general was caught at a disadvantage and killed by the enemy. And because the battle was lost, the army lost the war. And all because one part was missing in the system: a small nail.

The second law of ecology is this: "Everything must go somewhere." Consider the disposal of garbage. When garbage is burned some of it becomes carbon and gas. Some of it is buried and decays. But some of it does not change at all. It is this kind of garbage that is most dangerous to the system of Earth. Bottles, plastics, and certain other substances are not biodegradable, that is, their chemical parts do not break down and return to the Earth in usable form.

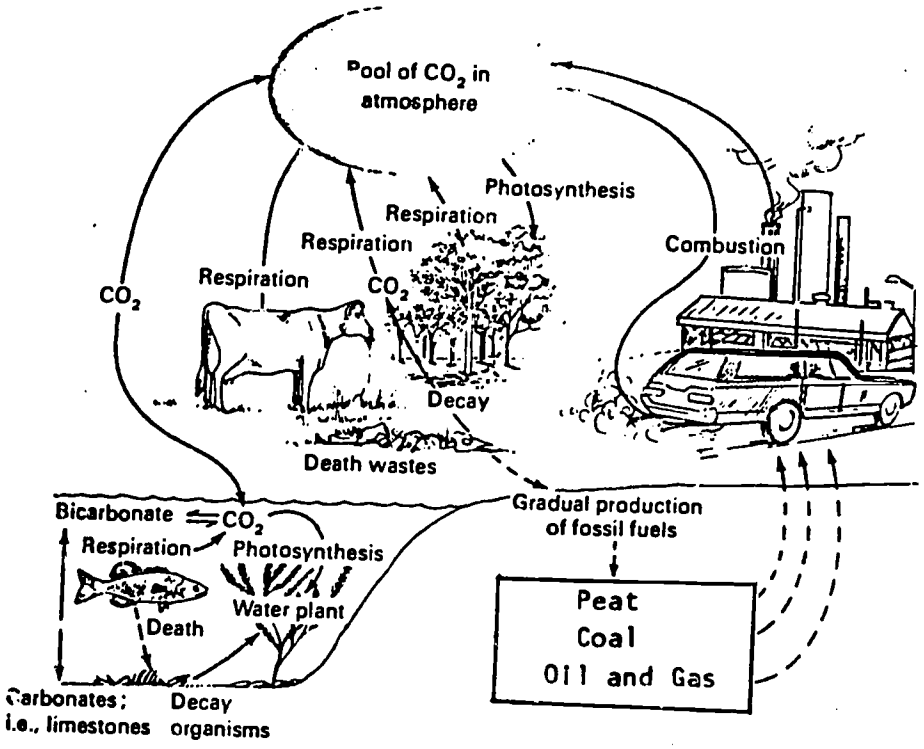
The third law of ecology is this: "Nat[illegible] best." Nature is a system which has taken millions of years [illegible]e, or develop. With every change humans make in the ecosystem, with every part of the system which they destroy, nature has to make changes in the rest of the system to keep it all balanced. Usually, nature cannot make such changes fast enough. Large parts of the system are destroyed as a result. Every living plant and animal is the result of two to three million years of very slow natural growth and adjustments. Humans have weapons today which could destroy the entire ecosystem in less than fifteen minutes. That is frightening. But it is just as frightening to know that we have been gradually destroying the ecosystem over the years. We have been destroying it not with weapons, but with dynamite, DDT, bulldozers and waste matter from industries, cars and planes. The big questions are: How far can people go before they reach the point of no return? How much can the ecosystem be changed until it simply stops working? When and if that happens, all living things will die. All plants, animals and humans will die. It is up to humans to prevent this.

The fourth and last law of ecology sums up the first three laws: "There is no such thing as a free lunch." Nothing we take is free from cost. Everything we take from the ecosystem must be put back. If it is not put back all other parts of the system are strained. Strained parts wear down faster than they would normally. Some strained parts may stop working altogether. This affects other parts. The rabbit which the wolf has for lunch must be put back with other rabbits by nature, or the wolf will some day be very hungry. The world, of course, cannot put back parts taken out of the system. But humans can and must replace the parts they take from the ecosystem.

There is one thing we should never forget. We are all part of the Earth system, whether we know it or not. Everything we do to the Earth system - good and bad - will affect us in some way. We are part of the system. Whatever happens to the system happens to us.

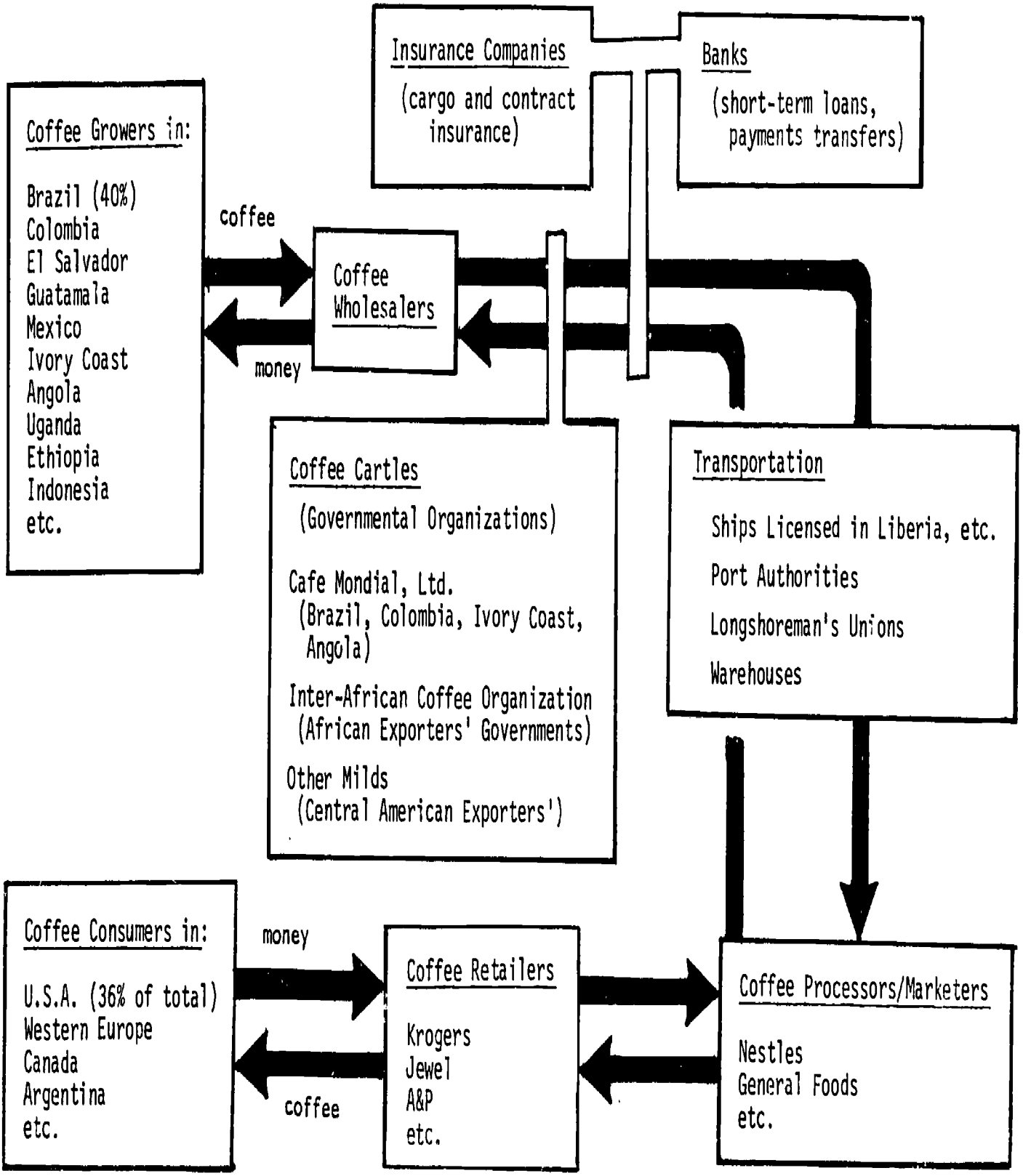
Adopted from: John Jay Bonstingl, Introduction to the Social Sciences, Allyn and Bacon, Inc., 1980.

The Carbon Cycle



Source: Ehrlich, Ehrlich and Holden, Human Ecology, 1973.

The Global Coffee Trade



SCENARIO OF A TRAGEDY

Imagine the green of an old village in England. It serves as a pasture upon which the herdsmen of the village are permitted to graze cattle for their personal profit. Such an arrangement, known as a commons systems, is suitable so long as the combined herd of the villagers does not exceed the carrying capacity of the pasture. The carrying capacity is the number of cattle that can be grazed on the pasture without depleting the grasses at a faster rate than they can grow back.

Let us imagine further that the villagers are continually adding to their personal herds. Eventually the carrying capacity is reached and surpassed. As a consequence of the overgrazing, the cattle begin showing signs of being undernourished. Thus each head of cattle returns slightly less profit to its owner. Even then the villagers continue adding cattle to the pasture. Eventually, the grasses are all consumed. The once green pastures will no longer support any cattle. The value of the green to all alike has been destroyed. The "tragedy of the commons" has run its course.

How likely would such a turn-of-events be? Why would the villagers continue adding to their herds even after it became obvious that the pasture was being overgrazed.

To answer this question it is necessary to picture yourself as a typical villager. Let us assume that you have a sufficient amount of money to purchase an additional cow. You have the right to graze the cow on the village pasture free of charge. Yet all of the profits from the milk and butter that are produced will go to you personally. Under these circumstances economic incentives for adding to your herd are obviously strong.

Would your decision be different, however, if you noticed that the pasture was showing signs of becoming overgrazed? After all you would see that the amount of milk and butter from the cattle you already graze on the pasture was declining slightly. Perhaps! But you would probably find that the profits from adding one head of cattle will be far greater than the slight reduction there may be in the profits from your other cattle. The total cost of the additional overgrazing may exceed your profit. But your share of that cost is small because the cost of overgrazing is spread out. All of the other villagers share in it

If it were only one villager adding a single cow, the consequences for the community would not be so serious. Unfortunately, the calculation of personal gain applies to every herdsman and every cow. Thus, under such a commons arrangement, it is only a matter of time before the "ultimate" tragedy takes place.

RULES FOR THE COMMONS GAME

In the "Commons Game" students play the roles of families in an old English village.

Each participating family begins the game with two cows that he grazes on the village pasture. So long as the pasture is not being overgrazed, each cow provides the family with an income of $30 each round (i.e., year). Accumulated wealth may be used to purchase additional cattle at a cost of $50 per head. The object of the game is to increase wealth. The best way to do this is by increasing your income as rapidly as possible.

As each round progresses you will complete the calculations outlined on the tally sheets that are provided. Each time period (year) begins by figuring your income from the previous period.

All families begin the game with two cows. Each cow has a potential of producing milk and butter worth $30 each year of the game. The actual profit per cow, however, may be subject to an overgrazing factor. In the first year, there is no such factor. So you earn $30 per head. After this first year, however, if the village herd becomes too large, there may be an overgrazing cost.

The amount of money you can spend on additional cows for your herd depends on your total wealth. This is figured by adding your income from the previous year (line 5) to any accumulated wealth from past years. You do not have any accumulated wealth at this time. So for this year, your wealth equals your income from the past year: $60. This is how much you have to spend on additional cattle. Note that spending this money will increase your income and your wealth in the long run.

In any year, each family may choose to use part or all of their wealth to purchase additional cattle. Each additional cow costs $50. This cost remains constant throughout the game. There is no bank, so you can only buy as many cows as you can afford. Whatever money you have left after purchasing these cows will carry over to the next rounds as accumulated wealth.

You may not talk with other families during the game. Your instructor can, however, answer any questions you have about tactics and the implications of your choices.

THE COMMONS GAME TALLY SHEET

	Round 1	Round 2	Round 3	Round 4	Round 5
Income from previous period:					
1. Potential Profit Per Head ($)	30	30	30	30	30
2. Overgrazing Factor (see table)	0	-	-	-	-
3. Actual Profit Per Head (ln 1 - ln 2)	30	=	=	=	=
4. Number of Cattle Owned (ln 12 from the previous round)	x2	x	x	x	x
5. Income for this year (ln 3 x ln 4)	=60	=	=	=	=
Current Wealth					
6. Monetary Units from Previous Period (ln 11 from previous round)	+0	+	+	+	+
7. Accumulated Wealth (ln 5 + ln 6)	=60	=	=	=	=
Increasing Your Herd					
8. Number of cattle you wish to purchase this year					
9. Cost per head	x50	x50	x50	x50	x50
10. Expenditures for Cattle this Round (multiply ln 8 by ln 9)	=	=	=	=	=
11. Money Remaining (ln 7 - ln 10)	=	=	=	=	=
12. Total number of cattle Owned (ln 4 + ln 8)					

CALCULATING THE COST OF OVERGRAZING

Use the appropriate table for the number of groups (families) playing the game:

	Cattle in Excess of[a] carrying capacity	Cost of Overgrazing[b]
If you have 10-13 families:	1-5	1
	6-8	9
	9-12	21
	13 or more	29[c]
If you have 14-16 families:	1-5	1
	6-10	9
	11-20	21
	21 or more	29[c]
If you have 17-20 families:	1-7	1
	8-13	9
	14-19	21
	20 or more	29[c]
If you have 21 or more families:	1-10	1
	11-20	9
	21-30	21
	31 or more	29[c]

[a] Carrying capacity = (number of families x 3) -1 (e.g., with ten groups the carrying capacity is (10x3) -1 or 29 cattle.)

[b] This number is to be subtracted from the profit obtained from each cow during the year. For example, if the cost of overgrazing is 9, the profit for the next year is ($30 -$9) or $21 per head.

[c] If two rounds are played at this degree of overgrazing, tell the class that an anthrax (hoof and mouth disease) epidemic has struck. They have all lost 2/3 of their personal herds! (Round to the nearest whole number.)

WORLD GEOGRAPHY | DESIGNING WORLD POLITICAL MAPS

DURATION: Approximately four class periods.

PURPOSE: To introduce students to the uses and limits of world political maps and to improve their mapping and map reading skills.

OBJECTIVES: Students will:

(1) Identify information displayed on typical world maps and information which could be displayed; and

(2) Prepare more useful political maps of world regions.

BACKGROUND INFORMATION FOR TEACHERS:

The primary purposes of this lesson are to help students improve their map literacy and to sensitize them to the artificiality of national boundaries and the political and economic differences which do divide the world's peoples. Americans are raised in a culture which uses political maps routinely but often indiscriminately. Most political maps in fact provide relatively little information. Lines indicate the presumed limits of state authority. Cities and perhaps other physical features are indicated. But much potential information is omitted. The colors on most maps, for example, mean nothing. Variations in color could be used to indicate political or military alliances, types of government, or level of economic development (per capita GNP). More than one type of information could be included by combining color keying and the use of lines (horizontal, vertical, diagonal) or dots to communicate information. The resulting maps would be more difficult to read, but would also provide important additional information.

Student Learning

This lesson centers around an inquiry and problem-solving activity in which students (1) determine what other information a world political map should communicate, (2) gather the necessary information, and (3) produce their own political map. In the process students express their interests in the world and discuss what types of information are really important in interpreting the political world. In addition, they use map making skills. They increase their ability to obtain information from complicated maps. In the end they will discover the limits which cartographers face in communicating the differences and similarities within the global society through political maps.

DESIGNING WORLD POLITICAL MAPS

This lesson is designed for use in the beginning of the course on world geography. It introduces students to the art and the limits of political maps. With minor adjustments, however, it could just as easily be used as an introduction into the regional geography section of the course, after they had reviewed mapping skills and been introduced to map concepts. In this context, the lesson might be used both to test the student's map literacy and to sensitize them to the concepts they will be discussing subsequently.

MATERIALS: Standard world political map, outline maps of four world regions, colored pencils or felt pens for map making.

ARRANGEMENTS: Use of the school library for research on world regions (step 4).

VOCABULARY: Political map, longitude, latitude, time zones, alliance, economic development.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Political maps, that is maps which show how the world is divided up among nations and which give other information about those nations, actually tell us relatively little about other countries, the relationships between countries, or about the world generally. Using a standard political map of the world, discuss with the class what is shown and what might be shown. You might use the following questions as a guide:

1. Looking at this map, what kinds of things can you tell me about the world -- just from what is indicated here? What is shown on this map? (countries and their boundaries, principal cities, rivers and bodies of water, time zones, latitude and longitude, compass directions).

2. What purpose does the coloring on the map serve? (readability)

3. Is there other information about these countries, or their relationships, which you think might be important or which you might want to show on a map like this? (type of government, alliances, economic characteristics, geographical features, social characteristics). List suggestions on the chalkboard.

4. How might you go about indicating these things?

DEVELOPING THE LESSON

Step 2: Indicate to students that in the next few days they are going to have a chance to design more useful political maps. Then divide the class into groups of four or five students each. There should be at least four groups, one for each of the major geographical areas to be mapped. There can be as many groups as necessary.

Hand out a copy of one of the appended regional maps to each group.

Step 3: Have the groups begin their work by deciding what types of information they would like to code on their maps and how.

As they discuss their maps, circulate among the groups and try to ensure that they select reasonable tasks.

DAY 2:

Step 4: Arrange time for the groups to use the school library for a class period, or assign the research necessary for completing the maps as homework.

DAY 3:

Step 5: When the research is done, give the groups time in class to complete their maps.

Step 6: Allow each group to present its map briefly in class, explaining what information they coded on the map and why they thought this information was important.

CONCLUDING THE LESSON

Step 7: Display the various regional maps together and discuss the problems associated with map making and map reading with the class. You might use the following as a guide:

1. There was obviously a variety of "political" information that could be indicated on a political map. But we might also want to indicate other information in addition. What other kinds of things might be relevant to include on our maps? (Social characteristics, climate, terrain, ethnic and racial groups, religious differences)

2. You have faced the map makers basic problem: deciding what is and what is not really that important to include

on a map. What determines what is important? How did you go about deciding and are you satisfied that you came up with the best answer?

3. There are also obvious limits to the information that can be included on a map. What limits did you face? Are there types of information which simply cannot be indicated on a map?

4. One of the principal limits in adding information on political maps is "readability." Are our maps readable? What does readability really mean? Could we add much more information and still have readable maps? or how much information would we have to subtract in order to get readable maps?

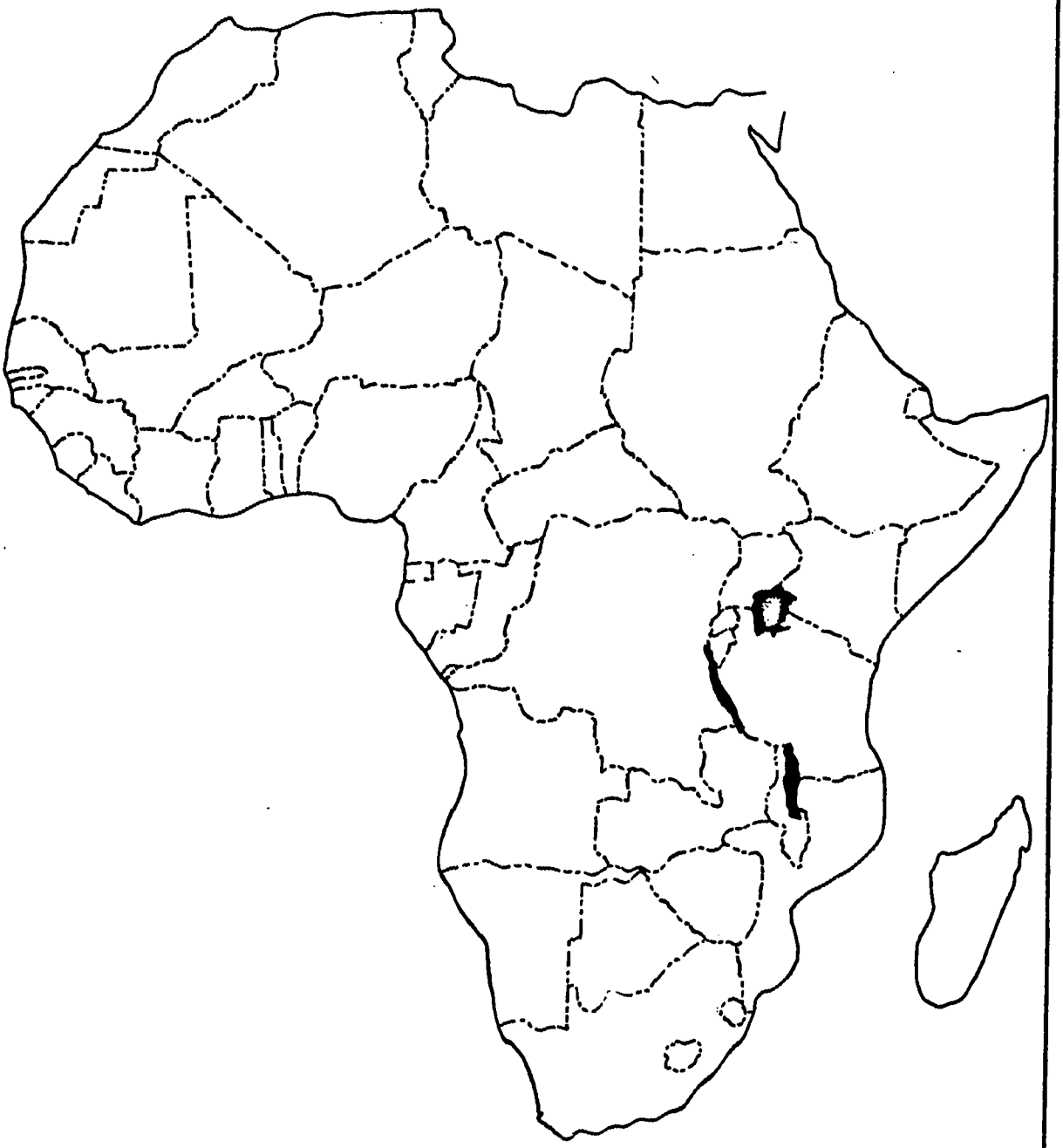
INSTRUCTIONAL OPTIONS:

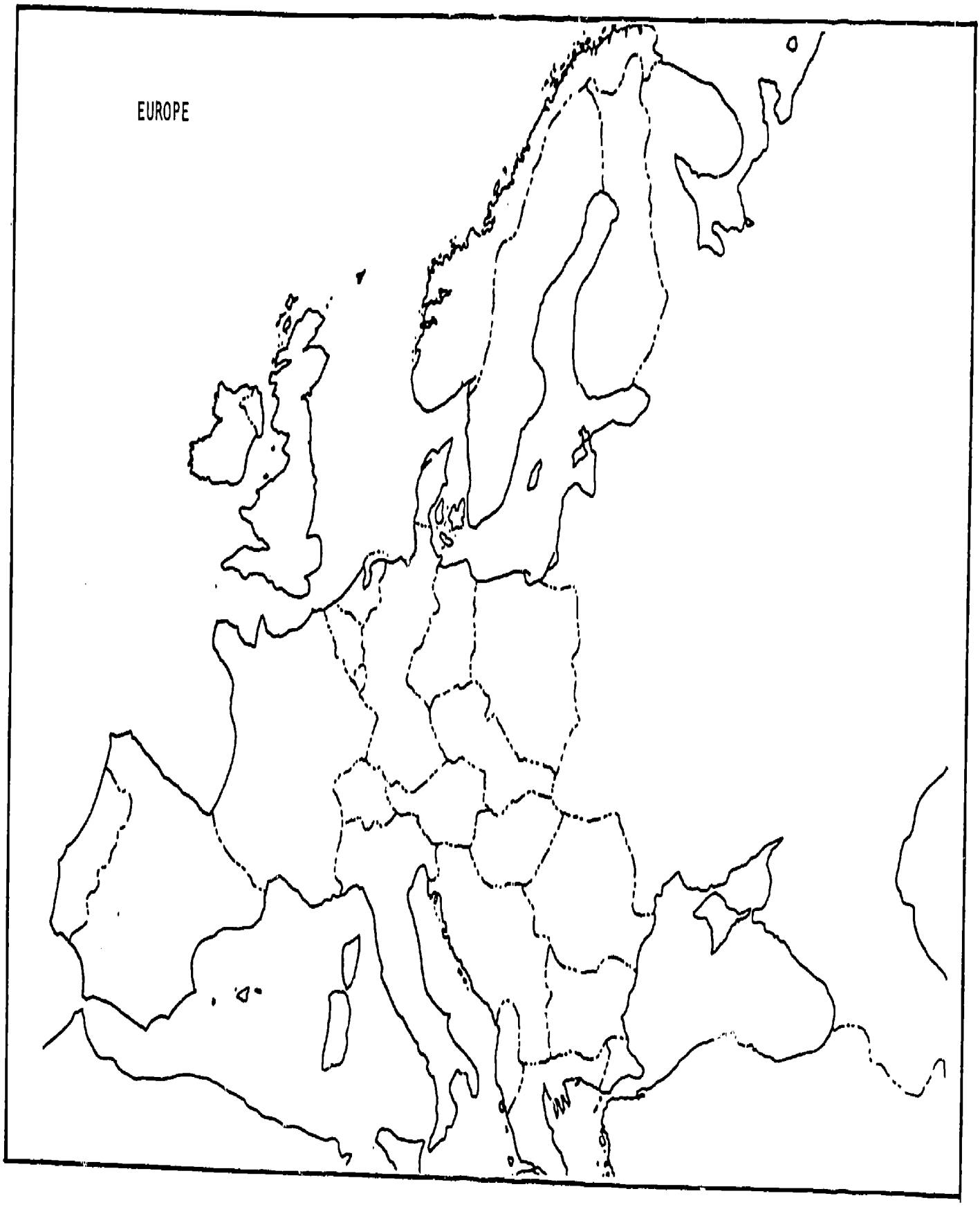
1. Keep the regional maps produced by the groups for display and reference as the various regions are dealt with in the course.

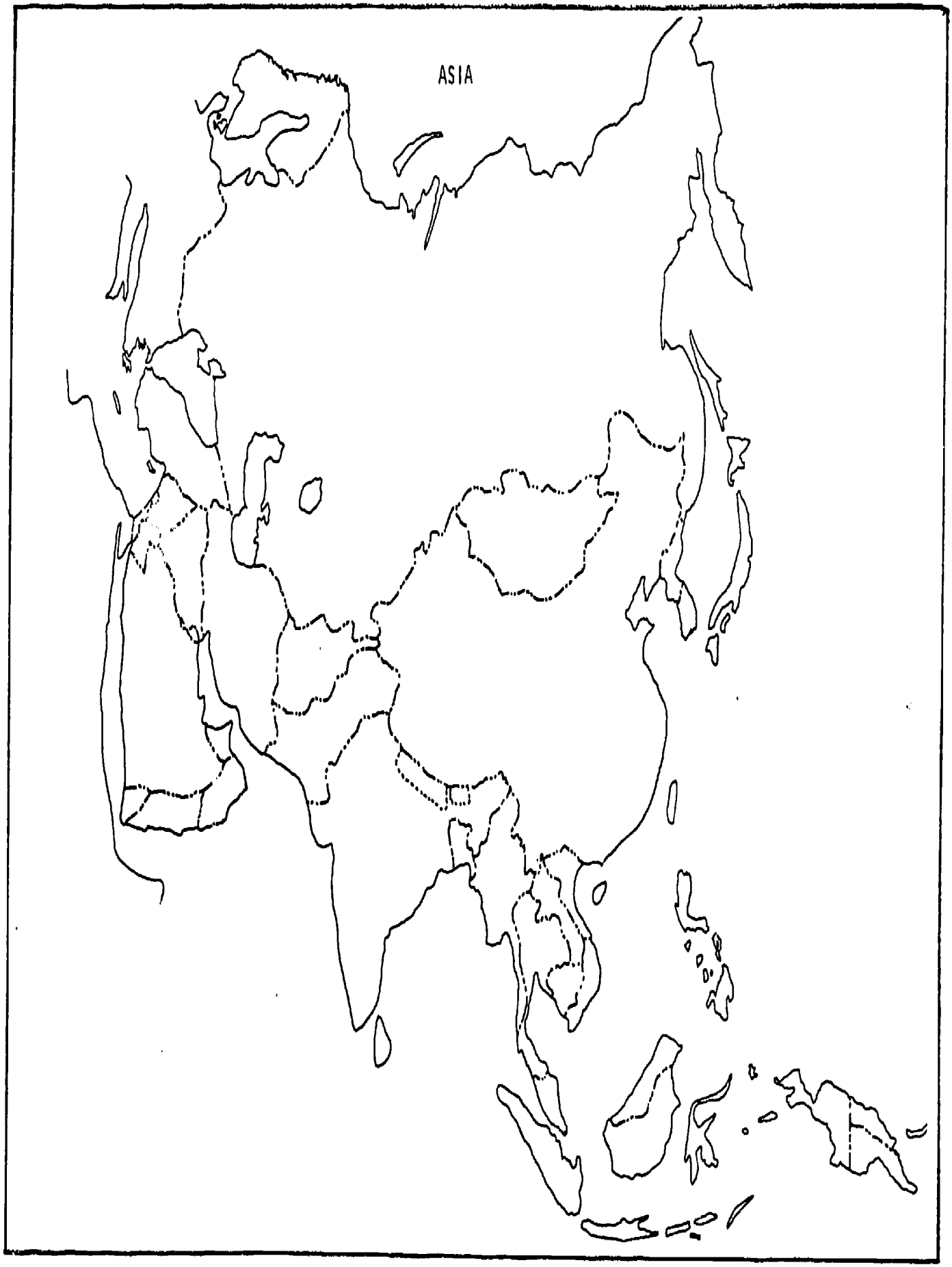
2. Have the students prepare a final "composite" world map on butcher paper for use as an alternative world map throughout the rest of the course.

THE AMERICAS

AFRICA




EUROPE


ASIA

DISCUSSING THE NATIONAL BOUNDARY: INVISIBLE LINES -- POLITICAL REALITY

DURATION: Approximately three class periods.

PURPOSE: To introduce students to the man-made nature of national boundaries and to their importance and role in domestic and world politics.

OBJECTIVES: Students will:

(1) Identify three functions or purposes which political boundaries serve;

(2) Identify five characteristics of political boundaries; and

(3) Describe and analyze an actual political boundary in terms of three criteria for locating national boundaries.

BACKGROUND INFORMATION FOR TEACHERS:

National boundaries are a fundamental and yet problematic part of the political landscape of our world. The image of the national boundary is presented and reinforced for students through every world map to which they are exposed in class and in the media. The concept itself is reinforced by the habit of drawing boundaries around all manner of political units, such as the Roman and Egyptian Empires, for which the "boundary" concept does not really apply.

Empirically and politically, national boundaries are important. They define the limits of a state's authority. They represent lines which, by political convention internationally, form a barrier to those outside. They serve psychological, legal, political and economic functions.

Boundaries are Man Made

At the same time, national boundaries are not fixed, unchanging or "natural" although most American students probably assume they are. Boundaries are a problematic part of the political landscape. In many parts of the world, precise boundaries are a matter of conjecture or even debate. When the stakes are high enough, these debates can cause conflict and even bloodshed. Even in regions like North America, where boundary disputes are not important issues, national boundaries are hardly immutable or defined by nature -- despite historical arguments about Manifest Destiny. The borders of the United States (excluding territories) have changed three times during this century (with the addition of Arizona and New Mexico and later Alaska and then Hawaii). The boundary with Canada, while hardly a source of conflict at this time, does not for the most part correspond to any natural geographical feature. It is the result of totally arbitrary political compromises.

DISCUSSING THE NATIONAL BOUNDARY

The border with Mexico, while again probably not likely to change, is the result of conquest, which in many parts of the world has supplied justification for border disputes and wars.

Student Learning

This lesson provides students with an introduction into the nature and functions of national boundaries. Materials are provided which can be used by instructors in a lecture or discussion format to show students the essentially arbitrary nature of many political boundaries around the world, and the artificial, that is man-made, nature of all political boundaries. Students are given an opportunity to apply the concepts provided in the lecture/discussion through a subsequent research assignment concerning the origins and nature of actual boundaries around the world.

This lesson can be used along or in conjunction with the next lesson: "Drawing Political Boundaries." This simulation of a hypothetical boundary negotiation is designed to give students insight into the impracticality of meeting all criteria for just and stable boundaries in the real world. Thus it also reinforces key concepts taught in the lesson.

MATERIALS: Discussion outline "The Nature and Functions of Boundaries;" Transparency maps of Europe, Chile-Argentina, Kenya-Somalia and China-USSR with accompanying "Background Notes:" Background essay for the instructor "Political Boundaries."

VOCABULARY: Political boundary, natural boundary, artificial boundary, criteria, functions, geographic or physical feature, mountain crest, nationalism, ethnic group, culture.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Introduce the students to the concept of a political boundary. This can be done in a way which also emphasizes a basic observation about political boundaries, including national boundaries: their artificial, that is man-made, nature.

Tell the students you will be discussing national boundaries over the next days and to illustrate just how a national boundary works, you will be separating the class in two countries: window people and door people. The two groups are culturally distinct. The first group likes to be by the

window: there are more distractions during class. The second group likes to be by the door: so they can leave faster when the bell rings.

Arbitrarily divide the class into these two groups by drawing an imaginary line down the center of the room from front to back. You might even want to tie up some string or yarn to represent the "boundary."

Then ask the students to think about the implications of this boundary. You might ask:

1. What kinds of problems might this boundary cause for the different groups? (Can the window people use the door? The window people control the fresh air and light of the door people. Some people who routinely sit near the middle of the room, and are not really window or door people, still must fit into one of the two groups.)

2. Given these problems, does it make any sense to have the boundary at all? Thinking in terms of what boundaries mean in the real world, are there reasons for having this boundary?

3. Each group has power over a resource important to the other group. Do you think it is more likely that the two "countries" would cooperate because of this? Or is it more likely that there would be conflict? Why?

DEVELOPING THE LESSON

Lecture/Discussion

Step 2: Explain that this boundary is similar to national boundaries around the world. It only has a reality or importance if one of the two groups decides that it is real and tries to keep the other group from crossing it. Without a string or very specific description of just where the boundary line is, conflict might arise over the basic question: who is in which group -- for example, which group gets the teacher!

Use these observations about the class boundary to lead off a discussion of the functions and characteristics of national boundaries. Follow the lecture/discussion outline "The Nature and Function of Boundaries." (The more detailed material presented in the article by Blij, "Political Boundaries" might also be used. Both cover basically the same content.)

The outline itself might be handed out to students at the on-set, if a discussion format is used. Or it might be handed out following a lecture or discussion as a study guide.

Note that outline maps, suitable for making transparencies, are appended and can be used to exemplify the discussion of why boundaries are drawn where they are.

Step 3: At the end of the lecture/discussion, give students a short research assignment as a way of reinforcing the concepts contained in the discussion. Write the following list of international boundaries on the board:

.United States and Mexico
.West Germany and East Germany
.Guyana and Brazil
.Zaire and the Congo
.Thailand and Laos
.Poland and the Soviet Union

Have students choose one of these international boundaries and, as a homework assignment, write a short report containing the following information:

1. How was the border determined, that is, what are its historical origins?

2. Does the border correspond to any natural or geographical features? How clearly defined is it?

3. Is this a disputed border, or could there be cause for one or the other neighbor arguing that the border is unjust in the future? What are, or might be, the reasons for the dispute?

4. Are the people on either side of the border culturally or ethnically different, or does the population appear to be mixed in the area around the border? (If there is no specific reference to this, historical clues may provide a hint.)

DAY 2: CONCLUDING THE LESSON

Step 4: When the research assignments are done, discuss what students have found. You might ask:

DISCUSSING THE NATIONAL BOUNDARY

1. Who thought that the boundary they researched would be unstable? Which boundary was it and why did you think it would be unstable?

2. How many of these boundaries reflect the role of power in drawing political boundaries? Explain.

3. Do any of these boundaries seem particularly arbitrary? That is, are there boundaries here which really have no reason for being where they are? Why are they where they are?

4. The more functions boundaries serve, the more likely that there will be conflict over them. The functions of a particular boundary probably go up when there are important natural resources or a lot of people living in the border area.. For which of these boundaries does that seem to be a problem? For which is this little or no problem?

5. Do any of these boundaries clearly divide people of different ethnic and cultural backgrounds? Which ones? Were those divisions as clear when the boundary was first drawn?

6. How many students chose the Mexico-United States border? How many thought this might be an unstable boundary? Why? How is this boundary similar to the others? How is it different? What things happening in the United States today might make it less stable? What one condition -- which gave rise to the boundary in the first place -- might help to keep this boundary relatively stable?

INSTRUCTIONAL OPTION:

If your school library does not have the resources to adequately complete the research assignment in this lesson, substitute the simulation exercise contained in the next lesson, "Drawing Political Boundaries."

THE NATURE AND FUNCTIONS OF BOUNDARIES

LECTURE/DISCUSSION OUTLINE

The Characteristics of National Political Boundaries

1. Boundaries are really geometric planes, not lines. They extend upward through the airspace above countries and downward through the sub-soil and sea.

2. Boundaries exist because man draws them. They are the result of human decisions and are, therefore, artificial. There are no natural political boundaries, even though many may choose to select natural physical features (for example, a river or a mountain crest) in order to define the boundary.

3. The boundary acts as a barrier between different areas and peoples. But it also acts as a point of contact between different countries. It is along the border that states make physical contact. It is across borders that people of different countries interact with each other.

4. Today there are no political frontiers, that is unclaimed land spaces, left. All the land surface of the earth, including Antarctica, is politically accounted for. Political boundaries are, however, being extended farther and farther off shore into the oceans as sea resources take on new economic importance.

Why Boundaries Are Drawn Where They Are

1. The reasons for drawing a political boundary in a particular place are many. The history behind a boundary has an impact on how stable it is. No boundary is so well drawn that it cannot become a source of conflict between the neighboring countries.

2. Some boundaries reflect cultural differences between people living on either side. They may be of different ethnic or racial groups. They may speak different languages or have different religions and customs. Virtually no national boundaries are perfect in this regard. Almost all countries of the world have minorities, and many boundaries actually separate people from the same ethnic background."

   The borders of Central Europe are examples, of how hard it is to create boundaries on the basis of ethnic groups or cultures.

3. Other boundaries follow physical features like the crests of mountains, rivers, lakes and coastlines. These boundaries were thought to be stable because they were clearly defined. But few countries are actually bounded by these kinds of geographic features, and the features themselves are not always all that clear.

   The border of Chile-Argentina is an example of how a natural geographical feature may not be that exact either.

4. Many boundaries in the world today were set where they are as a result of political compromises. Some were dictated by a militarily strong country or a colonial power.

   The boundaries of the Horn of Africa and China-USSR are examples of this.

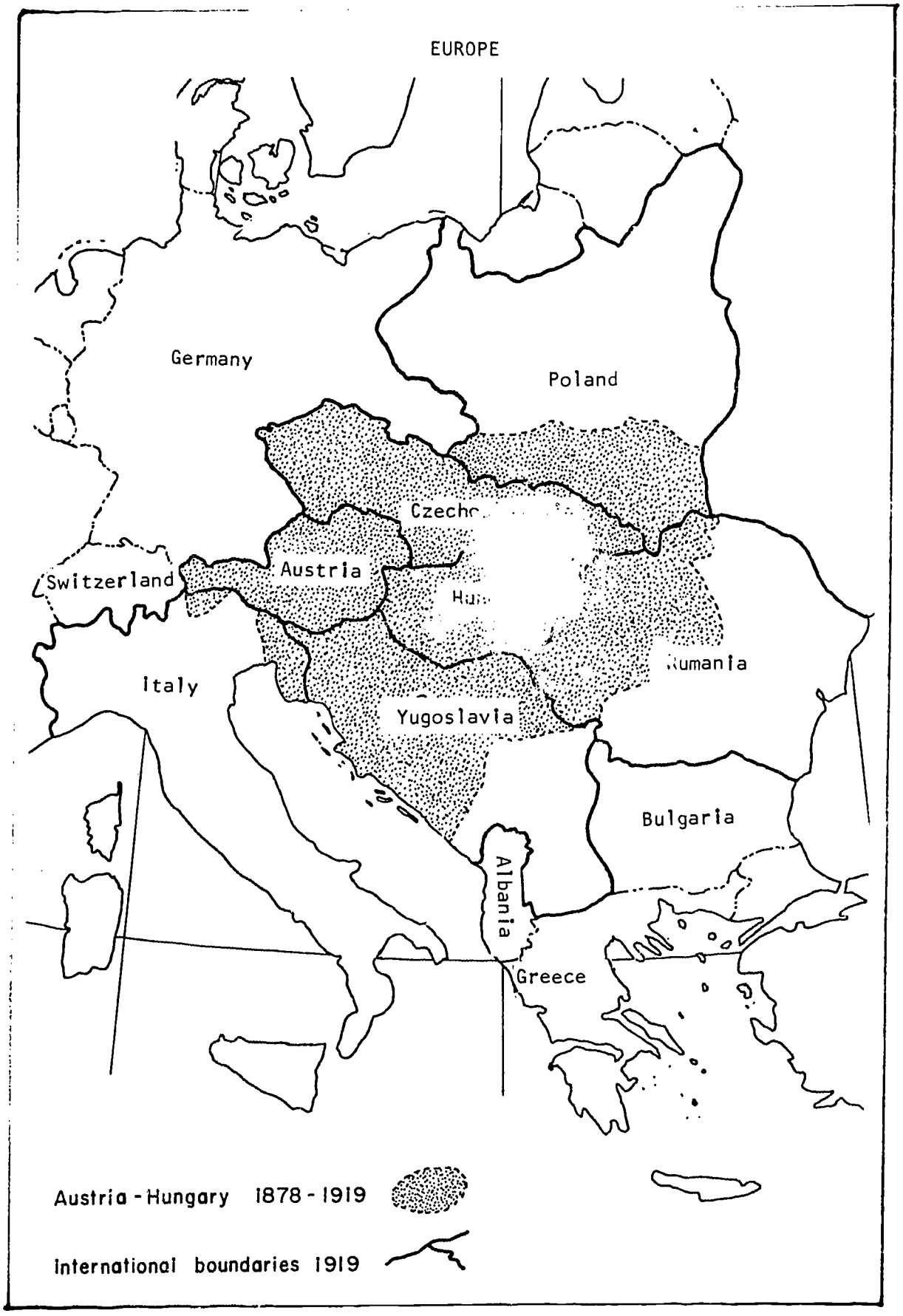
Why Boundaries Are Drawn At All

1. Boundaries once served a defense function, but with modern technology, this function is no longer important.

2. Boundaries of all sorts, including national boundaries, serve a symbolic and psychological purpose or function. They are a relatively clear yardstick for dividing "us" from "them" and for defining who is included in the "us."

3. Boundaries also serve a legal and political function; they identify the limits of state authority. The laws of a country are only binding inside the boundaries. Only people inside the boundary must pay taxes or help protect the country.

4. Boundaries serve an economic function; they provide a market area for a country's businesses. Business organizations located within a country can generally operate freely within the boundaries of the country. They are also often protected from the competition of economic organizations located outside the boundary.


EUROPE
Germany
Poland
Czecho
Austria
Switzerland
Hun
Rumania
Italy
Yugoslavia
Bulgaria
Albania
Greece
Austria - Hungary 1878 - 1919
International boundaries 1919

52.

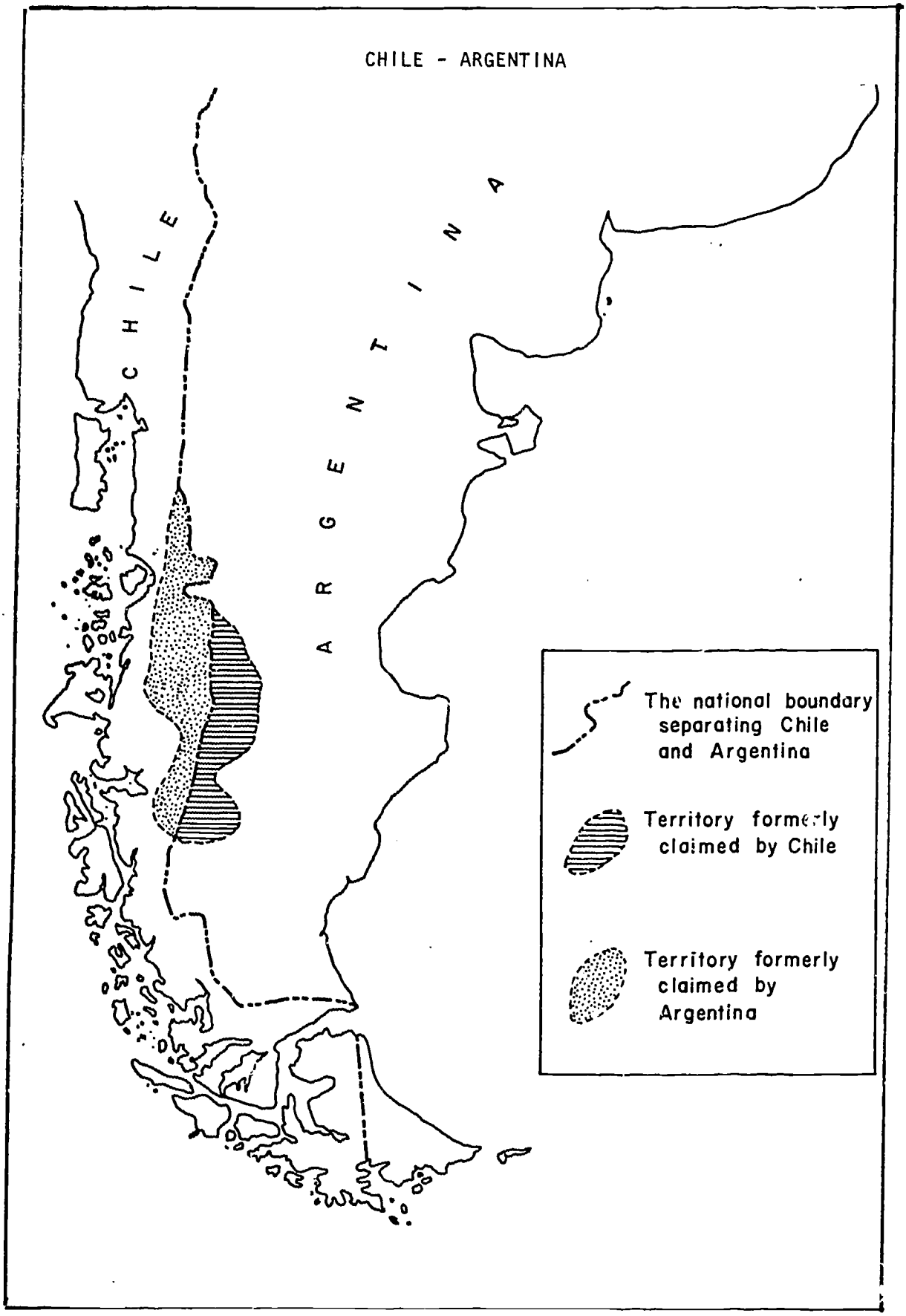
BACKGROUND NOTE TO TRANSPARENCY MAP OF EUROPE

The boundaries of Central Europe reflect a clear problem with using ethnicity as a criterion for boundaries. The Treaty of Versailles divided the Austro-Hungarian Empire among seven political states: Austria, Czechoslovakia, Poland, Hungary, Rumania, Yugoslavia and Italy.

However, it was never possible to redesign central Europe to satisfy "nationalism." Where states were designed most closely around ethnic populations, as in Austria, countries were created that had little economic and historical justification. It has been said that Austria became a capital without a country. It could not grow enough food to feed its people. It did not have an adequate natural resource base. As a result the country declined economically after World War I. On the other hand, where economically more viable countries were created, minority problems were also created. Czechoslovakia, for example, included three different ethnic "majorities" -- Czechs, Slovaks and Ruthenians -- along with a relatively large German minority along the western border. Hitler, of course, exploited this fact and invaded the country in 1939.

Yugoslavia was created by combining areas in the western Balkans, some of which had been independent before the war (e.g., Serbia and Montenegro). Conflict among the ethnic groups of the country influence the politics and history of Yugoslavia to this day.

There are nationality (minority/majority) problems today in many parts of Europe, including Yugoslavia, Belgium, the Soviet Union, Cyprus, and Spain. Many would add The United Kingdom of Great Britain and Northern Ireland to this list.


CHILE - ARGENTINA
CHILE
ARGENTINA
The national boundary separating Chile and Argentina
Territory formerly claimed by Chile
Territory formerly claimed by Argentina

BACKGROUND NOTE TO TRANSPARENCY MAP OF CHILE-ARGENTINA

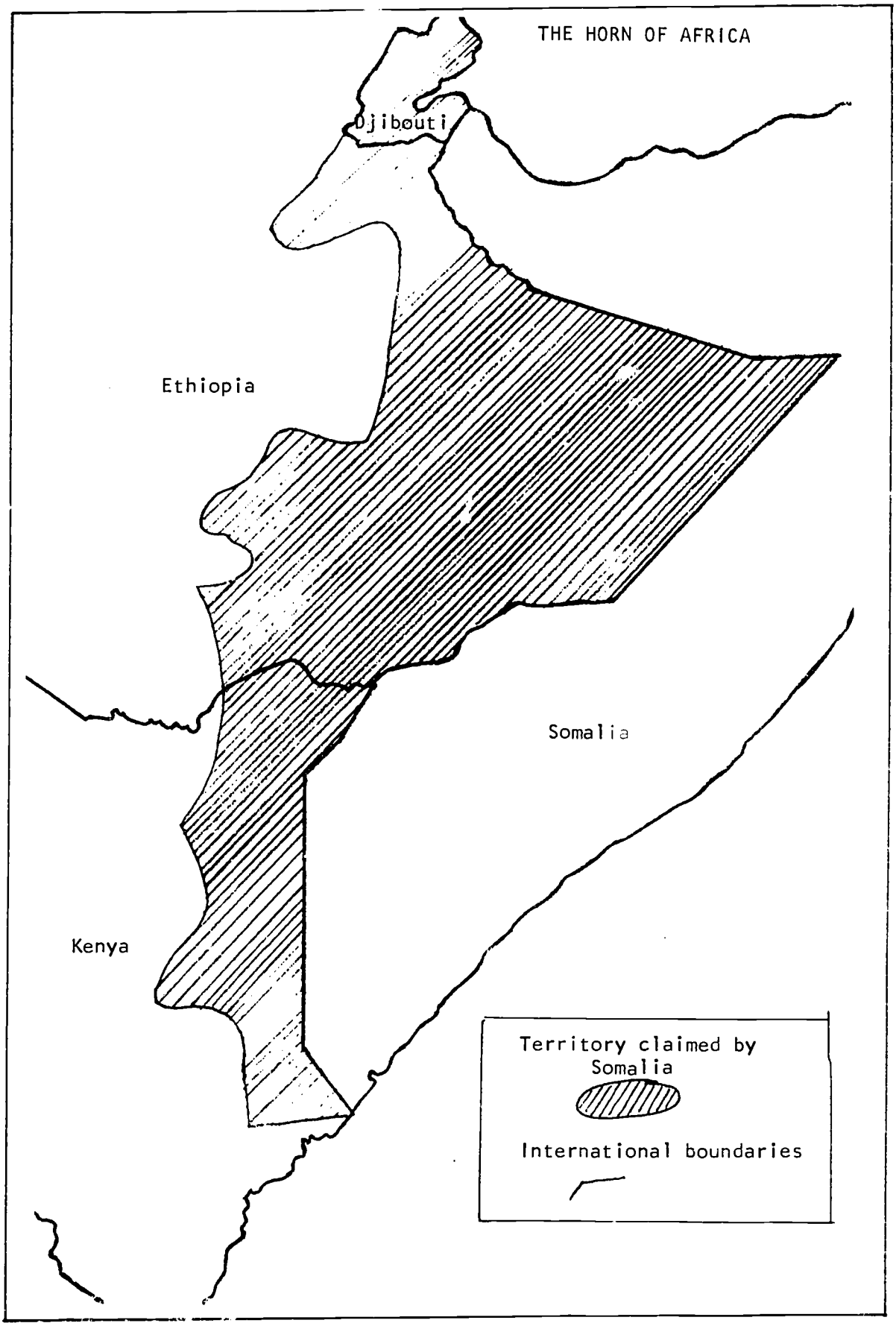
The classical case where the physical features -- in this case the indefinable crest of the Andes Mountains in South America -- proved to be an inadequate choice to separate "nationalities" occurred when the boundary separating Chile and Argentina was drawn.*

A conspicuous mountain range has breadth as well as length and in its valleys may dwell human societies which share the mountain environment and have adjusted their economies to it. Most of the more formidable mountain ranges constitute minute cultural regions rather than cultural divides. Any boundary chosen to follow a chain of mountains must, unless the area is totally uninhabited, break up human societies to some degree.

Boundaries drawn along mountains and hills, which seem so unambiguous when first delimited, have proved to be the source of bitter controversy. Examples from the United States -- the boundary between the New England States and Canada and that between Alaska and Canada -- demonstrate the difficulties in the way of reconciling simple geographical description with the complexities of a mountain range. Another and equally interesting case study is that of the Andean boundary between Chile and Argentina. The dispute over this boundary raged for half a century with a vigor which was all the more intense in that the actual basis of it was always obscure -- either buried in the universal ignorance which prevailed as to the physical conditions of the districts concerned, or enveloped in a cloud of conjecture when those districts were but half explored. A boundary treaty of 1881 between Chile and Argentina had failed in that it could be interpreted in various ways when applied to the existing physical features of the Patagonian Andes. This should cause no surprise, for politicians, lawyers and even geographers, to a certain extent, lost sight of the fact that there is hardly a geographical term expressing a natural feature that will always and under all conditions, bear one unalterable interpretation. That the interpretations of the Treaty of 1881 between Chile and Argentina were diverse is clear from the map.

There is no crest line in the Andes; the water parting does not conform with the higher ranges, and the two countries, having failed to reach a compromise on their own, agreed to accept the arbitration of King Edward VII. The final award, made in 1902, was commemorated by the Christ of the Andes, a huge statue erected where the boundary crossed the summit of the Uspallata Pass. The line adopted was, of course, a compromise between the conflicting claims of Chile and Argentina. In other words, the boundary in this region was not defined by a physical feature -- none could be decided on. Rather it was defined by an arbitrary political allocation.

*From N.J.G. Pounds, Political Geography, McGraw-Hill, 1972, p.87.

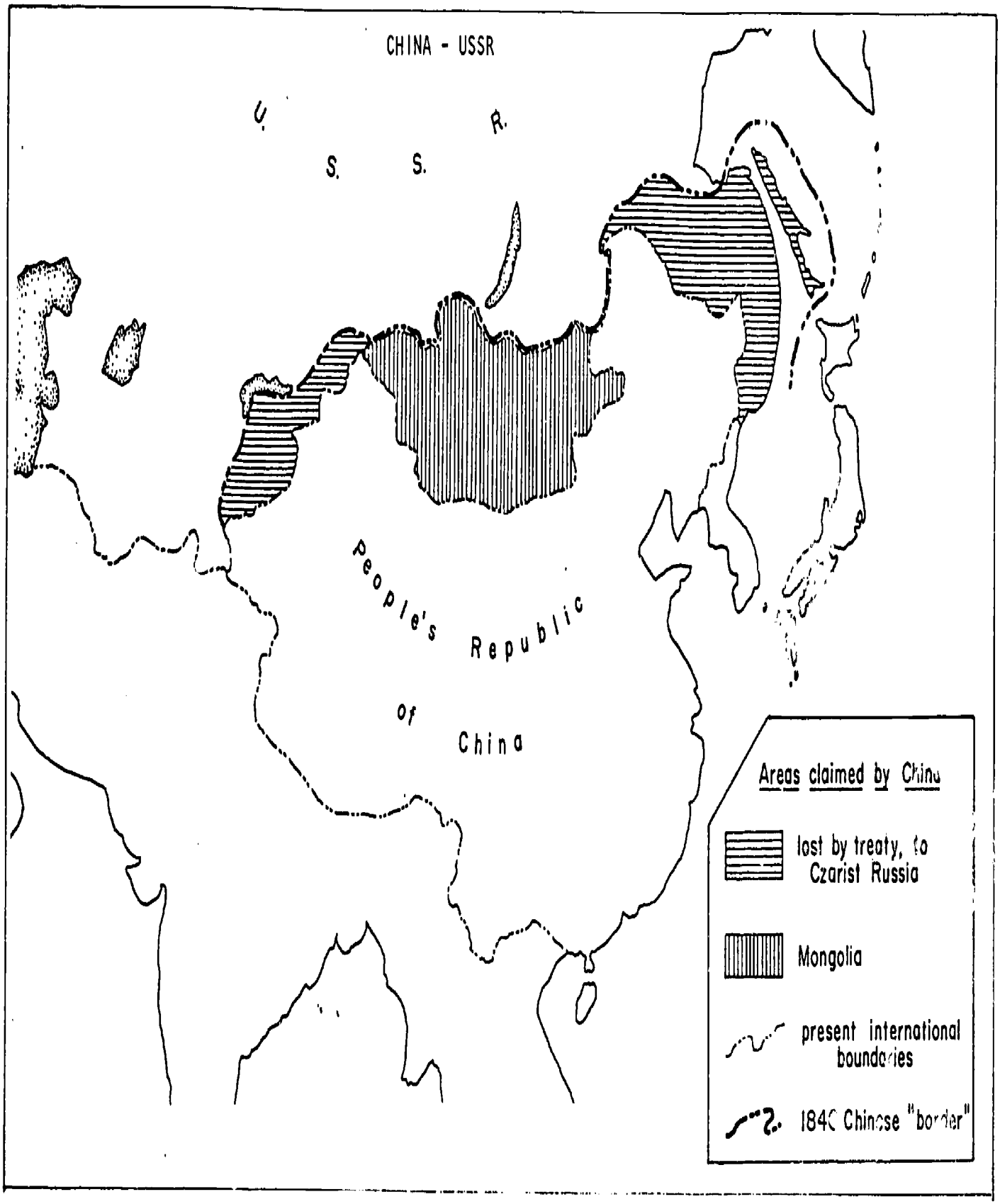

THE HORN OF AFRICA
Djibouti
Ethiopia
Somalia
Kenya
Territory claimed by Somalia
International boundaries

BACKGROUND NOTE TO TRANSPARENCY MAP OF THE HORN OF AFRICA

The Kenya-Somalia boundary is about 424 miles long. It was initially defined as a colonial boundary in 1891 to separate the British and the Italian spheres of interest. It was drawn as a series of straight lines, with little concern for geography and no concern for the cultural or ethnic divisions among populations in the region.

Particularly in the area where Kenya, Ethiopia, and Somalia come together, the boundary divided the Somali "nation." Today Somalis living in parts of Kenya and Ethiopia claim that the boundary should be redefined so that all units of Somaliland are reunited under one sovereign state.

This type of claim is referred to as Irredentism, meaning territory that is "unredeemed." The claim, in a sense, comes from "outside" and it has a strong "nationalistic" basis. In theory, however, the Somali peoples living on their own land in Kenya and Ethiopia have Ethiopian nationality.


CHINA - USSR
U. S. S. R.
People's Republic of China
Areas claimed by China
lost by treaty, to Czarist Russia
Mongolia
present international boundaries
1840 Chinese "border"

58.

BACKGROUND NOTE TO TRANSPARENCY MAP OF CHINA-USSR

This map shows: (a) the 1840 Chinese border; (b) the territory lost by China (Manchu) to Czarist Russia in the 19th century; and (c) three treaty areas, including the Island of Sakhalin.

China declares that the treaties that delimited the frontier territories in the 19th century were "unfair" and "unequal," and that a redelimitation based on traditional culture claims should take place.

Soviet Union maps show the international boundaries as fixed. Chinese maps indicate that the boundaries are not defined.

Mongolia is a special case. Mongolia, originally part of the Chinese cultural empire, broke away in 1911. Since then, it has been independent, although politically allied with the Soviet Union since 1924.

POLITICAL BOUNDARIES*

BY Harm J. de Blij

Many studies in political geography have dealt with frontiers and boundaries. Boundaries, on the map and on the ground, mark the limit of the state's jurisdiction and sovereignty. Along boundary lines states make physical contact with their neighbors. Boundaries have frequently been a source of friction between states, and the areas through which they lie are often profoundly affected by their presence.

At times in history, several states grew to local power and prominence simultaneously, but never made effective contact. Separating them were natural impediments to communication: lakes, swamps, dense forests, mountain ranges. These states, with very few exceptions, possessed no boundaries in the modern sense of the word, but they were nevertheless separated from their neighbors. Whatever the separating agent -- it might have been sheer distance -- it functioned effectively to prevent contact.

This situation prevailed throughout history, and in various degrees on all populated continents, until very recently. The modern map showing all states bounded by thin lines that can be precisely represented on maps is, in the politicogeographical world, a very new phenomenon. Although some of the old states, like the Roman Empire, attempted to establish real boundaries by building stone lines across the (in this case, British) countryside, and natural features such as rivers served as trespass lines, the present, almost total framework of boundaries is a recent development. Maps representing the situation one, two, three, or more centuries ago show vast areas which are either unclaimed, unsurveyed, or merely spheres of influence. And man's political evolution has been going on for thousands of years, not just hundreds.

Thus the states and embryonic states of the past were separated, not by lines, but by areas. Still, they were separated, and they were either not in contact or only sporadically and ineffectively so. And here it is possible to recognize that this intervening area functioned -- it functioned to prevent contact. Today's boundaries do not prevent contact; along them states <u>make</u> physical contact!

*From Harm J. deBlij, <u>Systematic Political Geography</u>, New York: John E. Wiley, 1973, pp. 127-135. Reprinted with permission.

The Functions of Boundaries

The functions of boundaries change over time. This is perhaps best illustrated through a consideration of the role of the boundary as a line of defense. Until quite recently, it was conceivable for a state to attempt to fortify its boundary to such an extent that it would be invincible. French hopes until 1940 were pinned on the Maginot Line, a belt of fortifications constructed along its northeastern boundary. Germany rapidly transformed the Atlantic coasts in its possession during the second World War into another line of forts and obstacles to invasion. The idea is as old as the Chinese Wall, and the principle is the same. Plateaus with sheer escarpments have afforded protection to societies which used these natural barriers to their advantage and considered the scarps to mark the limit of their domain: the histories of Lesotho and Ethiopia illustrate the case.

But advancing technology has diminished the defense function of boundaries, and states no longer rely upon fortified borders for their security. In some parts of the world, where guerrilla activities short of open warfare occur, a river or mountain range may still present strategic advantages: northern Mozambique was a case in point. To the major powers of the world, however, and those states possessing modern military equipment, the naturally or artificially fortified boundary is no longer an asset.

Thus the once-important function of the boundary as a line of defense has all but disappeared. On the other hand, this should not suggest that the boundary as a mark of territorial inviolability has thereby also vanished. Fortified boundaries served the dual purpose of defense and unmistakable demarcation. Many states are presently demarcating their boundaries without intending or attempting to fortify them. Rather, the aim is to mark the limit of state sovereignty, which may have become necessary as a result of emerging friction. The government of India has recently been demarcating its northern boundaries with China, and the government of Kenya has not only demarcated its border with Somalia (the Somali Republic) more clearly, but also cleared a belt of adjacent land of all settlement, in order to reduce infiltration by Somali herdsmen.

The boundary has an impact upon domestic issues and organizations within the state as well. This is exemplified by the commercial function of the boundary. The government can erect tariff walls against outside competition for its market and thus assist internal industries. These industries may prosper, and owe their prosperity to the protection thus afforded. However, as we have seen, the price differential on either side of the boundary will affect the location of outlets for the products of the various industries affected by tariff provisions, and while the industry may prosper, the area under the shadow of the boundary may not.

The boundary, of course, also has a legal function. State law prevails to this line. Taxes must be paid to the government by anyone legally subject to taxation, whether he resides one or one hundred miles from the border. Even though a resident living within sight of the border may have closer linguistic, historical, and religious ties with the people on the other side, he is subject to the regulations prevailing on his side of the boundary, including compulsory education to a certain age, selective service enlistment, and so forth. Furthermore, the state government is capable of controlling emigration and immigration at points along the border.

Criteria of Good Boundaries

Boundaries appear on maps as thin lines marking the limit of state sovereignty. In fact a boundary is not a line, but a plane -- a vertical plane that cuts through the airspace, the soil, and the subsoil of adjacent states. Boundaries can be effective underground, where they mark the limit of adjacent states' mining operations in an ore deposit they may share, and they can be effective above the ground, for most countries jealously guard their airspace.

Political geographers, among others, have engaged in the search for the "ideal" criteria for boundary definition, in hopes of reducing the world tensions created by boundary disputes. This activity was especially common during the interwar period, and led to intense debate regarding the merits of "artificial" boundaries as opposed to "natural" (physical). In fact, no discussion of criteria is possible without at the same time referring to functions. An example will clarify this. Some political geographers have felt that ethnic criteria may be the most appropriate for the definition of international boundaries. In other words, boundaries should be drawn so as to separate peoples who are racially unlike, and to unify peoples who are racially uniform. This is one of the bases for the South African Bantustan Scheme, whereby the racial elements of the very heterogeneous South African population are being assigned their own "homelands" (Bantustans for the African peoples). Behind this, of course, is the idea that the boundary will separate peoples who are culturally different so that a minimum of stress will be placed upon it.

Of course, world population is too heterogeneous and interdigitated to permit the definition of boundaries that completely and exactly separate peoples of different racial character (not to speak of the difficulty in always correctly identifying "race"). There are minorities in practically every state. Occasionally, rather than altering boundaries, states have attempted to exchange such groups: once, some hundreds of thousands of Turks were moved to Anatolia, from where Greeks were expatriated. In 1964 there was talk of repatriating the Cypriot Turks from Cyprus,

leaving the island entirely Greek. Another view of the Cyprus problem was that of partition -- the demarcation of an ethnic boundary separating the Turkish minority from the Greek majority. Note, again, that while the criterion in this case is race, the expected function of such a boundary is to minimize friction between adjacent peoples and their institutions.

The criterion of language, also, might be proposed as a basis for boundary definition. But a map of the world's languages shows a patchwork of great complexity which would immeasurably compound the boundary framework existing today. Many states are multilingual and would be fragmented in any such effort; furthermore it is impossible to reconcile the language criterion at all times with that of race. This brings up a question that kept political geographers at odds for some time -- namely, whether a boundary should be a barrier or a bond between adjacent states. In its simplest form, we might put it this way: if a boundary separates people who speak different languages, they are not likely to understand each other well, with the result that relations will remain potentially hostile across their mutual boundary. On the other hand, a boundary running through a region of linguistic homogeneity would ensure that people on either side would have, at least, a language in common, and as a result could communicate more easily. This common language across the border, then, would act as a cement between the two states involved. The point can also be put differently, in terms of physical criteria: a mountain range performs the barrier function, with divisive consequences; a river, with its two banks close together, would form a bond.

One of those criteria that do not overlap with language or race is religion. Peoples of widely varied races and tongues have accepted the same faith -- and peoples speaking the same language have adopted different religions. Nevertheless, in areas where religion has been a strong source of internal friction, this has been a major basis for boundary definition. A recent example is the partition of the Indian subcontinent into (mainly Hindu) India and (mainly Moslem) Pakistan. The latter state, as a result, became a fragmented state, and has shown the ill effects of its condition.

Inspection of the world framework of boundaries will indicate that many political boundaries lie along prominent physical features in the landscape. These would seem to be especially acceptable criteria, since pronounced physical features often also separate culturally different areas. In the early days of boundary establishment, physical features were useful in that they were generally known and could be recognized as the trespass line. But this function has ceased now, and the most divisive and obvious physical features have created major difficulties between states. For instance, it would be difficult to imagine a more obvious divider than the Andes between Chile and Argentina, and yet the boundary running along the great divide was the subject of a half-

century's bitter wrangling, mainly because the original treaty (1881) did not adequately define the boundary it intended to establish. Any mountain range has recognizable crestlines, but they rarely coincide with the watershed. As a result, water flowing from one side of the state boundary feeds the streams of the state on the other side of the boundary. If the state that possesses the water sources decides to dam those waters, it may impede the water supply of the other state, and friction may result. There are many other examples -- the use of passes, the need for tunnels -- each has produced its own problems.

Rivers, too, seem obvious and useful boundary features, but again many problems attend their use as boundaries. The use of the water by the adjoining states is one major issue for debate. Furthermore, rivers tend to shift their course, which requires a redefinition of the boundary, which may lead to friction. Thus physical features, which seem almost to be nature's own provision for boundary establishment, are at times as problematic as boundaries based upon other criteria.

While such criteria as have been considered above, among others, have played a role at the time of boundary definition, the most important recurring element is one that cannot be mapped and which changes with time: power. Often states have been able to dictate to others where boundaries should be drawn: this occurred after both the first and second World Wars. Many boundaries, first drawn as temporary truce lines, became permanent international borders. Such boundaries have appeared on the map since the end of the Second World War: the present partition of Germany and Korea resulted from power struggles and has little or nothing to do with the cultural realities within those territories. Only time will tell whether these boundaries, like so many truce lines of the past, will attain permanency.

Political geographers long discussed the question of whether boundaries should be bonds or barriers, and whether very divisive borders such as mountain ranges and lakes are "better" than artificial, "unnatural" boundaries. Changing conditions have brought changes in emphasis. In the first place, the world boundary framework, apart from relatively minor adjustments, is not likely to be changed, however salutary the criteria that might be "discovered" to be best. Secondly, the evolution of supranationalism in many spheres of human activity has provided new hope that the interruptive and divisive nature of boundaries may ultimately be reduced. Boundaries with few functions served man better than those with many important functions; for the fewer the functions, the fewer the contrasts across the border. But boundaries tend to reflect the increasing complexity of society: their functions increase in number and importance. To reverse the trend, then, would require a

reversal in the very process of man's political evolution -- not a likely event. Hence, the hope lies in eventual changes in the concept of state sovereignty with the emergence of supranationalism. And indeed, in recent times some states have given up a small degree of their sovereignty in order to participate in economic and cultural blocs.

DURATION: Approximately four class periods.

PURPOSE: To help students understand why boundary disputes occur and why they continue to be an important part of the politics of various world regions.

OBJECTIVES: Student will:

(1) Apply criteria for stable, political boundaries to a hypothetical case; and

(2) Identify political problems involved in defining political boundaries.

BACKGROUND INFORMATION FOR TEACHERS

This lesson presents students with a problem-solving dilemma which in many ways replicates problems faced by actual boundary-makers. After reviewing and discussing criteria for just and stable boundaries, students must partition the island of X's and Y's into two separate countries, one to be dominated by each of the island's two ethnic groups (X'x and Y'x). As in most real world situations, there is no perfectly just solution. Natural resources are distributed unequally on the island. Transportation facilities and physical features (a prominent mountain range) suggest a particular pattern to the partition. Yet, the ethnic groups are so inter-mixed as to make a simple boundary dividing the two populations impossible. Historically, the situation is similar to that facing the treaty-makers at Versailles after World War I.

Student Learning

This simulation provides students with an opportunity to apply generalizations about boundaries learned in the previous lesson "Discussing the National Boundary." If related to actual boundaries at the end of the simulation, it will clearly show why boundaries are not the fixed, stable and presumably just features of the political landscape that most Americans presume. Thus students will gain some insight into why conflicts over boundaries still rage around the world. The exercise will also reinforce perceptions of political boundaries as man-made and thus artificial and changeable. It can thus be used to discuss the political importance of boundaries and the political process involved in setting boundaries in much of the Third World. This point is particularly important with respect to Africa, where colonial boundaries bear so little relationship to traditional or ethnic homelands.

The lesson can be used as a follow-up to the previous lesson "Discussing the National Boundary." It might also be used in place of that lesson,

although care should be given in this case to integrate some of the lecture materials from the previous lesson into the briefing for the simulation.

MATERIALS: Simulation narrative "The Island of X's and Y's," three maps of the island detailing "Physical Features," "Resources and Communications," and "Ethnic Pattern," Three transparency maps of the island, and an overhead projector.

VOCABULARY: Physical or geographical features, ethnic group, partition, political boundary, national boundary, interethnic, United Nations, subtropical, bauxite, criteria.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: If you have used the previous lesson (Discussing the National Boundary), you may want to introduce this simulation by briefly reviewing some of the characteristics of political boundaries, particularly the three reasons for locating boundaries in particular places. Note that the first two reasons, cultural differences and physical features, are regarded by many as criteria for good boundaries. That is, boundaries will be more stable if they separate people of different cultural and ethnic backgrounds, and if they are drawn along clear physical or geographical features.

If you have not used the previous lesson, you may want to open this simulation with Steps 1 and 2 from that lesson.

DEVELOPING THE LESSON

Step 2: Hand out the simulation narrative "The Island of X's and Y's." Have students read the sections on Historical Background and The Problem. Make certain they understand that the goal for each ethnic group is to obtain as favorable a partition as possible.

The goal of the U.N. Boundary Commission is to arrive at a settlement which will be acceptable to both sides. Only then will the boundary be reasonably stable.

Step 3: Divide the class into two groups. Select five students to represent the U.N. Boundary Commission. Hand out the three maps of the island and let each group begin discussing where the boundary should be. The first step for each group, including the Boundary Commission, should be to elect a group leader and a group recorder.

Members of the U.N. Boundary Commission should also discuss and decide on a boundary. They should try to anticipate the arguments of the two ethnic groups.

DAY 2:

Step 4: Allow the groups to complete their discussions and decide on a specific boundary. This boundary should be drawn on a transparency map. Make certain the proposed boundaries extend offshore to include the oil field. The group should then take a little time to prepare a short presentation detailing the arguments/reasoning behind their proposed boundary.

Step 5: Allow the ethnic groups between 5 and 10 minutes to present their arguments.

After the presentations, you may want to invite the Boundary Commissioners to meet outside class to reconsider their own arguments and their proposed boundary.

DAY 3:

Step 6: Reconvene the Boundary Commission hearings. Give the Boundary Commissioners up to 10 minutes to make their arguments and present a compromise boundary to the two groups.

Step 7: The ethnic groups should discuss the proposed boundary for about five minutes. Then have the groups vote on the compromise boundary. Record the vote, by ethnic group, on the chalkboard.

CONCLUDING THE LESSON

Step 8: Discuss the simulation with the class. As you do, you might draw attention to real situations which are similar (for example, Lebanon, Palestine, Central Europe). The following questions may serve as a guide:

1. Although this is only a simulation, the problem you have faced in drawing a boundary to partition the island of X's and Y's is in many ways similar

to problems faced by boundary makers throughout history. Within your groups, what problems did you have in deciding where to draw the boundary? What problems did you have in describing where it was drawn?

2. People have argued that boundaries should follow physical features like the mountain crest of our island. In what ways would that be a good boundary? What problems would it have?

3. Most people think that an important criterion for drawing boundaries be that it create countries in which people are culturally or ethnically similar to each other. Why might this be good? Is it possible on the Island of X's and Y's? What impact might this have on whether or not there will be conflict over the boundary in the future?

4. Another problem which boundary makers usually face is the problem of justice. Boundaries divide people, land and natural resources among different countries. How the land and resources are divided affects whether the people involved are likely to see the solution as just. How important a problem is this on the Island of X's and Y's? Do you think there is a "just" way to divide up these resources?

5. The boundary on the Island of X's and Y's will also serve many of the same purposes as real political boundaries. What purposes do you think it will serve? Are these purposes important? Are all the problems you faced in drawing the boundary justified by these purposes? Might there be better ways to resolve the conflict between the ethnic groups?

THE ISLAND OF X's AND Y's

1. Historical Background: For many hundreds of years, ethnic groups lived [illegible]efully with each other on a relatively small island. To a large [illegible]tent, the communities followed similar agricultural practices. They grew cereals, fruit trees, and raised animals. The ethnic groups originally settled on different sides of the island, but movement into each other's "cultural domain" had occurred very frequently. There was little interethnic marriage, however.

   Ethnic tensions began to increase when the island became involved in World War II. The two ethnic groups had different overseas ties both culturally and economically. They found themselves taking opposite sides in the war, although no actual fighting took place on the island. When the war ended, the ethnic conflict continued on the island. Eventually a United Nations Peace Force was needed to control the violence that arose. After a year of fighting in which many lives were lost on both sides, the two ethnic groups agreed that the island should be partitioned "once and for all." They wanted two independent sovereign states, one for each group. Three boundary commissions were created: one representing Ethnic Group X, one Ethnic Group Y, and one representing neutral observers from the United Nations.

2. The Problem: To arrive at a partition plan agreeable to both sides by drawing an international boundary line on the island.

3. The Island: Background Data

   Physical

   a. Generally low lying at 0-600 feet with one broken mountain ridge of approximately 4,000 feet. Ridge forms a backbone to the island but important route-ways cross it from one side to the other.

   b. Subtropical location.

   c. Two good natural harbors both located in the southern part of the island on both coasts at river mouths. The harbor on the west coast has the potential for handling the largest oil tankers in the world. The rest of the coastline is inhospitable to any economic use except tourism.

d. The main river rises near the center of the island and flows southeast. In the mountain area there is a steep gorge with considerable proven hydro-electric power potential.

e. The original subtropical vegetation cover has been removed through hundreds of years of farming.

f. There are two areas of rich mineral wealth -- surveyed but not yet developed. In the northwest there are large areas of high-grade bauxite ore (estimated at 1000 years worth at current global mining rates). In the northeast off the coast, there are rich proven reserves of low sulphur petroleum and natural gas -- estimated 50 to 75 years supply at current demand rates.

Cultural/Economic

a. The island, a less developed area up to World War II, has since been "eyed" by the more developed states of the world as a region of considerable economic potential. Ethnic conflict which developed during the war has, however, prevented any economic "take-off."

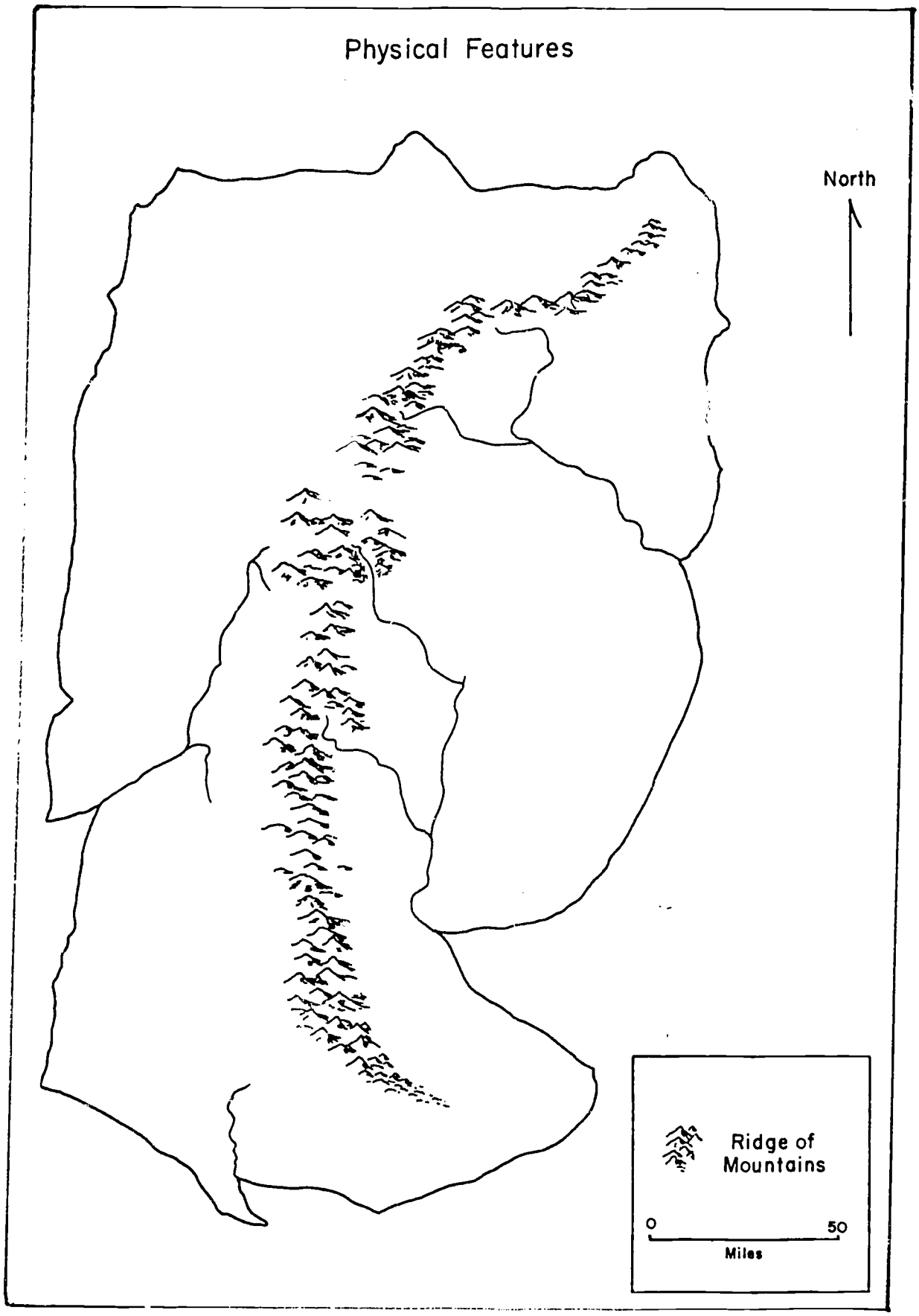
b. Meanwhile, the island has grown richer on the basis of its traditional exporting economy -- cereals, fruits, and some animal produce. Increased urbanization has taken place as a result of this wealth, particularly in the two port areas in in the southern half of the island.

c. Railroads were built originally to serve the immediate hinterlands of the two ports. The United Nations, however, financed a rail connection between the two ports during its first year of peace-keeping activity.

d. The main exports are primary food products, sold to the more developed countries on the mainland.

e. The main imports are light manufactures.

f. The two ethnic groups have approximately the same numbers of people, about one and a quarter million each. The clusters of population (see map) indicate the island's settlement pattern. (The clusters vary in size of population. They are symbolized on the map for position only.)


Physical Features
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Ridge of Mountains
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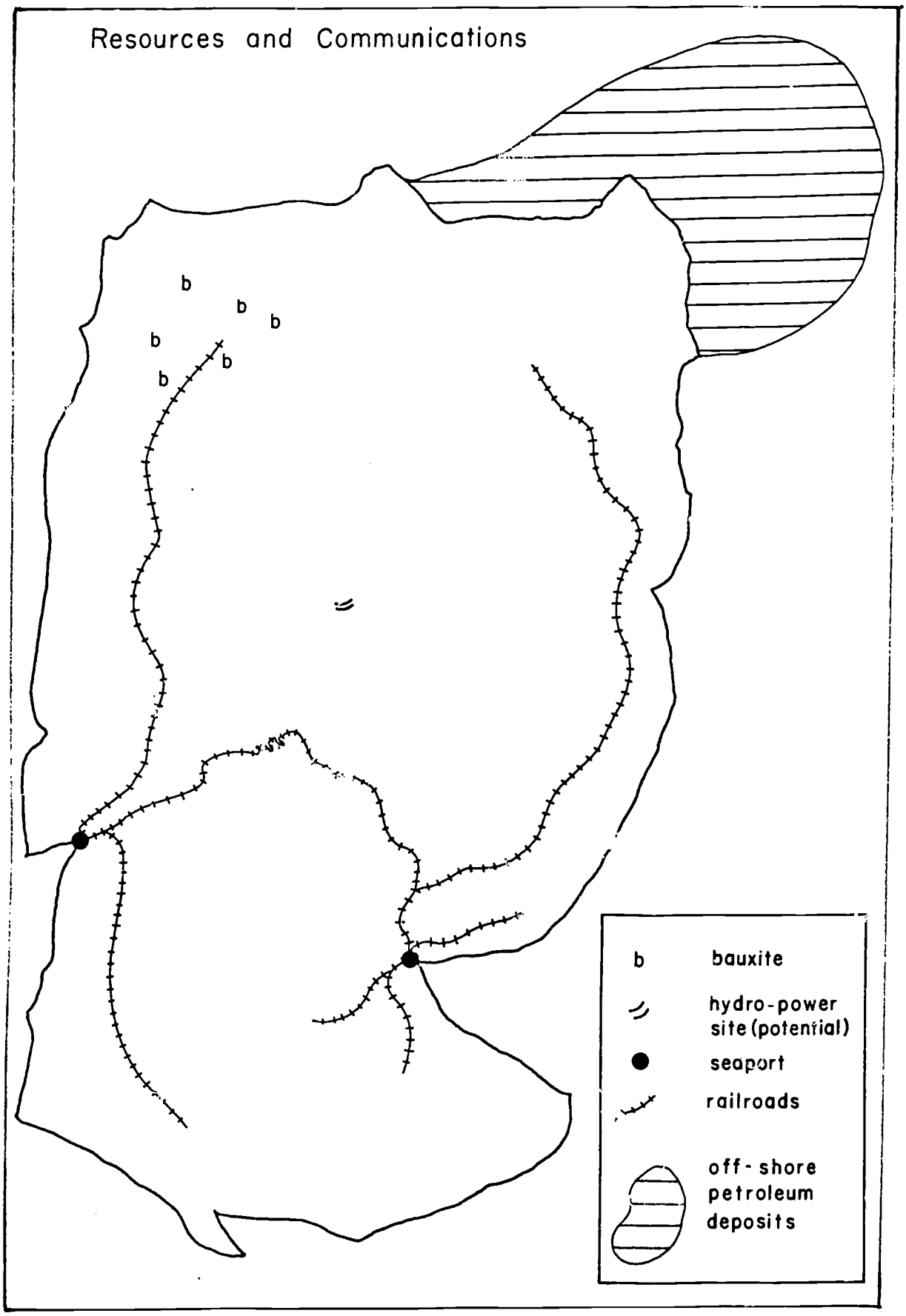
Resources and Communications
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bauxite
hydro-power site (potential)
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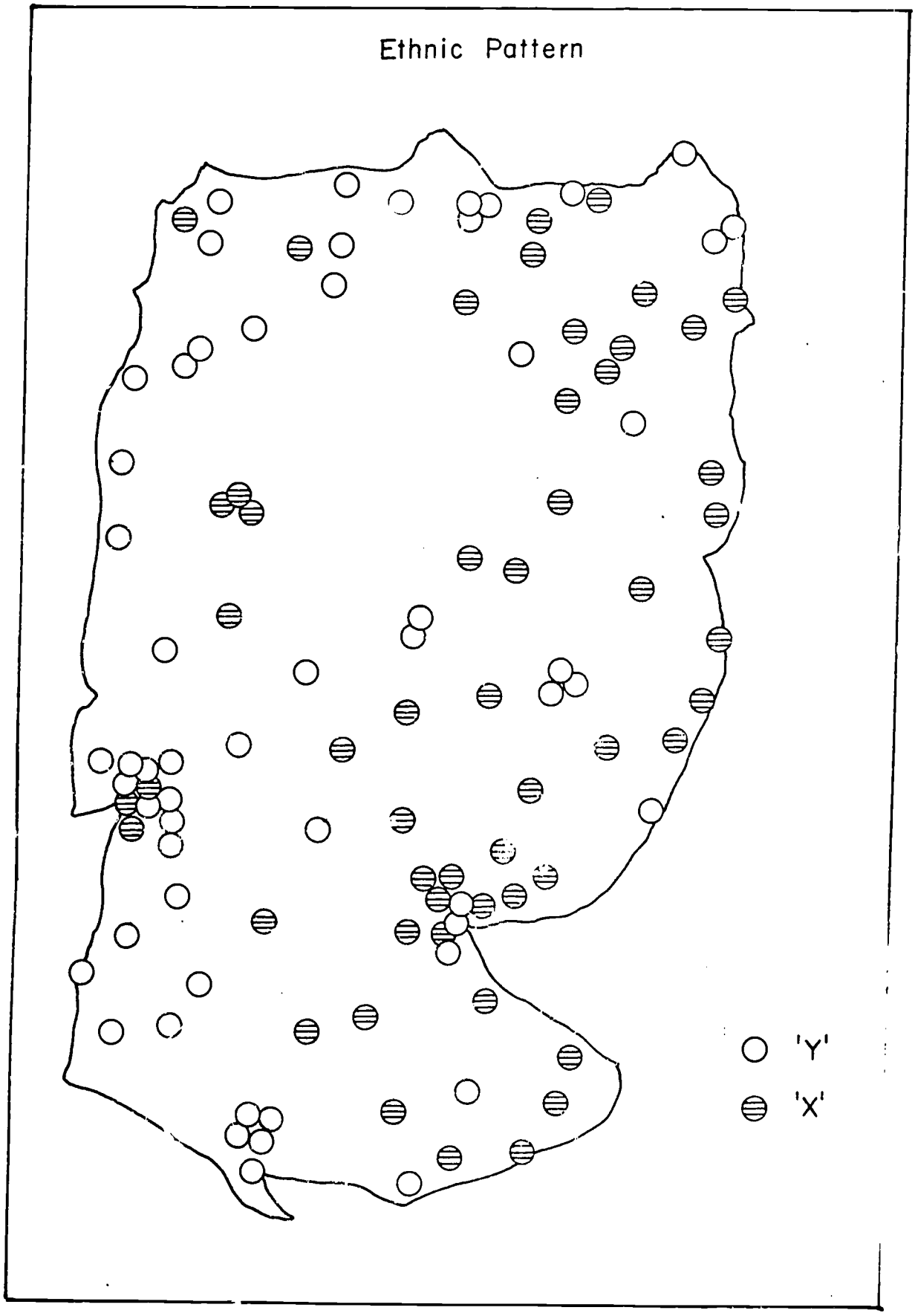
railroads
off-shore petroleum deposits


Ethnic Pattern
'Y'
'X'

WORLD GEOGRAPHY

AMERICAN AGRICULTURE AND THE GLOBAL FOOD SYSTEM

DURATION: Approximately two class periods.

PURPOSE: To indicate the role of American agriculture in world trade and the importance of grain exports to American farmers.

OBJECTIVES: Students will:

(1) Identify common agricultural products consumed by people in the United States and by people abroad, including those which enter world trade.

(2) Suggest economic and non-economic reasons for differing consumption habits around the world.

(3) Identify areas of the world which have food (grain) deficits and areas which have food (grain) surpluses and suggest reasons for these deficits and surpluses.

(4) Suggest economic and political reasons for the pattern of American trade in feedgrains, wheat and soybeans.

BACKGROUND INFORMATION FOR TEACHERS:

Any serious effort to help students understand American involvement in the global community today should include some attention to the global food system. American agriculture depends on the world market. While actual percentages vary from year to year, approximately thirty percent (30%) of all the feedgrains grown in the United States (principally corn, sorghum, oats, barley) is sold on the world market. Two-thirds of the American wheat crop is routinely exported, as is around half of the soybean crop.

However, the world is not quite so dependent on American agriculture. While American grain exports play critical roles from place to place and from time to time, the bulk of the food consumed in the world is grown locally. American grain exports account for only around 7% of world grain production, even less of world food production.

The Importance of Grain to the Food System

Actually many agricultural items which are grown around the world, especially those which enter world trade, have little or no nutritional value (e.g., tea, coffee, sugar, cocoa or chocolate, tobacco). The importance of these crops lies primarily in the fact that they take labor and land but yield little or no real food. They are also frequently grown in countries and by people who have precarious food supplies.

Among the food products grown and traded internationally, grains are the most important. Cereals, including wheat, corn and rice make up the most basic staple in human diets around the world. They are also most important to world trade, because most other items either tend to be more perishable (e.g., vegetables and fruits) or more expensive relative to the nutrition provided (e.g., meat, nuts and dairy products), or both. So most of the food traded internationally is in the form of grain, despite the Central American bananas and Mexican tomatoes routinely consumed by Americans.

The Emergence of the Global Food System

Actually the international food system is of relatively recent vintage. As discussed in the attached reading "The History of the Global Food System," it was not until the Industrial Revolution that the technological basis for even national food systems was developed. It was only with subsequent advances in transportation that a world food system was feasible.

Even then, the global food system with which Americans have become accustomed has only emerged since World War II. Before that time the food system was far more balanced. Western Europe was the only net food importer in the world. Asia became a consistent food importing region only during the war and its aftermath. With rapidly increasing populations, it has continued to be a food importer ever since.

Other regions, including Africa, Latin America and Eastern Europe, have only recently become net food importers. In part this has been due to rising populations. But it also reflects two other factors: (1) changes in consumption patterns, with increased demand for meat and thus feedgrains in Eastern Europe, and (2) development efforts in Africa and Latin America which have neglected investment in agriculture. Increasing investment in export agriculture (e.g., tea, cocoa, sugar, rubber, etc.), which takes away acreage from domestic food production, has also played a part in some countries.

Student Learning

This lesson exposes students to empirical data which graphically show the shape of the world food system. Students see who exports food and who imports food. They develop hypotheses about why the different regions may grow more or less food than their people need. In so doing, they utilize basic knowledge of world geography.

Students also view the world food system from the perspective of the American Farmer. They see not only where American grain is sold but the pattern of grain trade across three key items: feedgrains used to produce meat, soybeans used to supplement human diets directly, and what, the poor man's grain. Given data on prices, students observe how wealth affects who can best afford America's surplus capacity.

MATERIALS: The reading "The History of the World Food System," and the tables "The Changing Pattern of World Grain Trade," and "American Grain Exports--1978."

VOCABULARY: Grain, feedgrains, soybeans, nutritional value, food deficit, food surplus, subsistence agriculture, per capita income, commercial trade, food aid.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Introduce the lesson by having students, in groups of 2 or 3, quickly list ten (10) common agricultural products that Americans consume during a normal day. Stop when the first group has identified ten items.

Step 2: Then have the groups quickly list five (5) agricultural products which people in other countries consume more regularly than Americans. Again stop when the first group has identified five items.

Step 3: Poll the groups and write a representative list on the board under the headings "Americans Consume" and "People Abroad Consume."

Step 4: Discuss the lists with the class. Ask:

1. Which of the products have little or no nutritional value? In studying world hunger why might it be important to look at the production and consumption of such products?

2. Are there products in the lists which students know or think are traded internationally? Which ones? Do these products appear on both lists? We tend to think American farmers feed the world. Do Americans import food products?

3. How might you explain the differences between the two lists? Why do people in other countries have different diets than Americans? Is it purely culture and tastes? What role does economics play? Does economics help explain differences in diets among Americans?

DEVELOPING THE LESSON

Step 5: Describe to the class the history of the world food system. Emphasize that most, though not all, of the foodstuffs

traded internationally are grains and that only a small proportion of the food consumed by people around the world comes from other countries.

You may want to reproduce copies of the reading "The History of the World Food System" for the class.

Step 6: Project the data on "The Changing Pattern of World Grain Trade." Have students:

1. Identify the region with the greatest grain deficit.
2. Identify the region with the greatest grain surplus.
3. Suggest reasons why Asia has the greatest deficits.
4. Suggest reasons why European deficits have decreased since 1920.
5. Suggest reasons why African and Latin American deficits are relatively low, and relatively recent.

DAY 2: CONCLUDING THE LESSON

Step 7: Briefly remind students of the pattern and history of world grain trade. Note again in particular the dominant role of North America in the world grain trade, the importance of exports to American agriculture and the limited role of trade in the overall global food picture.

Step 8: Hand out copies of the table "American Grain Exports--1978." Then project a transparency or hand out copies of the "Discussion Questions."

Have students, working in groups of 2 or 3, answer these questions on the basis of information in the table.

Step 9: Discuss the questions with the class.

THE HISTORY OF THE WORLD FOOD SYSTEM

Food has always been a central factor in societies throughout the world. Only recently, however, has the world's food supply become part of a single world-wide "system." New capability in transportation and farming techniques have helped to create a global dimension to the producing and consuming of food.

From Subsistence Agriculture to a Global Market

For most of the two million years that humans have existed, securing food was everyone's full-time occupation. The tilling of the soil introduced a major advance in mankind's food supply. It created a division of labor that was enhanced by subsequent developments in irrigation and the use of animals for plowing. Still, these discoveries did not create a "world food system." Most of the world's food was consumed in the same place it was produced and by the same people that produced it. Some trade did occur. Imperial Rome relied on grain from North Africa. Exotic foods and spices travelled long routes to distant markets. Still, until just a little over two hundred years ago, most of the world's peoples supplied their own food from the yields of their own land.

The Industrial Revolution led to the end of subsistence agriculture. This "revolution" made possible the emergence of national food systems, and later a world-wide food system. Industrialization was actively triggered, in part, by the increased efficiency of agriculture and the resulting migration of now unneeded rural laborers into urban trades and crafts.

Not until the development of the railroad and the steam engine, partway through the nineteenth century, however, did the world's food system become truly international. The industrial regions of northern Europe could not make use of cheap and abundant supplies of grain, imported from Russia and from America. By the 1870's, grain from the heartland of America was travelling thousands of miles by rail and steamship across the Atlantic to feed the burgeoning populations of industrial Europe.

The division of labor between the farmer and the factory worker that arose within nations became visible on a world scale. Some nations found they could export food into the world market, earning money to buy the goods they could not or did not produce at home.

Others, such as Great Britian, became the producers of those industrial goods and also became increasingly dependent upon food imports. Since different states enjoyed different natural endowments, and some had especially generous amounts of fertile and well-watered agricultural land, a deepening international division of labor was generally welcomed as advantageous to all.

In the eighty years of this century, thanks to mechanization of agriculture, the development of new and higher-yielding seeds, and increased knowledge about farming techniques, total world food production has regularly outpaced population growth. This is not to say that the growing demand for food and the increased vulnerability of urban populations and food-importing countries have not created problems and pressures. Japanese imperialism in Taiwan and Korea was caused by part by Japan's search for a secure food supply. The colonial trading patterns of Europe also reflected such politically managed international divisions of labor. As a result, increases of productivity and food production were not shared equally by the peoples of the world even though improved conditions of health and food helped spur the rapid population growth of this century.

Major International Activities

The world food system consists of two kinds of exchanges across countries--exchanges of food and exchanges of other items related to food production.

Food moves among countries on two kinds of bases: trade and aid. Commerical trade reflects the international division of labor that has emerged over the last century and which allows the world's people to take advantage of the differing production capabilities around the world. It also serves as a major resource upon which countries can draw when their own production falls short, or when they have a bumper harvest. India for example, which had been a chronic importer in the 1960's and early 1970's, found it advantageous to export wheat in 1978-79 when it had bumper crops.

Food aid is the other form of international exchange of food. Some countries are too poor to buy all the food they may need. At other times natural disasters or wars create emergencies where people face starvation. In these situations the international trading system has been supplemented as governments and private organizations provide food as gifts or as highly subsidized or concessional sales. Until after World War II food aid has always been a special and temporary

activity as governments and voluntary organizations responded to abnormal needs in other countries. Large American agricultural surpluses, however, in the 1950's created political pressures for disposing of these commodities. The result was the creation of an international food aid system which was largely American in the 1950's and 1960's. That system has become internationalized and institutionalized as other countries have joined and as American surpluses have disappeared and along with them the political pressure from American farmers to dispose of surpluses. In the 1950's food aid constituted as much as twenty percent of all international food movements. In 1980 less than ten million tons of cereal out of over one hundred eighty million tons traded (about 5%) was food aid.

From: Raymond F. Hopkins, "The Global Food System" in Global Issues: Food, James E. Harf, B. Thomas and Raymond F. Hopkins, Eds., Columbus, Ohio, Consortium for International Studies Education, 1980.

The Changing Pattern of World Grain Trade

Region	1934-38	1948-52	1960	1970	1972-73	1976
			(Million Metric Tons)			
North America	5	23	39	56	89	94
Latin America	9	1	0	4	-3	-3
Western Europe	-24	-22	-25	-30	-18	-17
E.Europe & USSR	5	-	0	0	-26	-27
Africa	1	0	-2	-5	-1	-10
Asia	2	-6	-17	-37	-38	-47
Australia & N.Z.	3	3	6	12	7	8

Note: Positive numbers indicate net exports; negative numbers indicate net imports

Source: The Global Political Economy of Food, Raymond F. Hopkins and Donald J. Pachula, eds. Madison, Wisconsin: The University of Wisconsin Press 1978.

American Grain Exports -- 1978

(in U.S. $1,000)

By Region	Value Exported[1] Feedgrains	Wheat	Soybeans
Canada	19,833	-	67,187
Latin America (including Carribean)	400,546	819,198	185,746
Africa (including North Africa)	143,294	506,188	24,855
Asia (including the Middle East)	1,657,277	1,479,267	1,367,817
Europe	2,951,784	831,936	2,951,074
Unknown[2]	311,720	239,814	152,370
Total Value	5,484,454	3,876,403	4,749,049

By Per Capita Income of County[3]	Feedgrains	Wheat	Soybeans
Countries with Per Capita Income over $2,000	$3,874,952	$1,230,969	$3,888,280
Countries with Per Capita Income Between $1,000 and $2,000	906,125	1,065,591	556,871
Countries with Per Capita Income Below $1,000	391,657	1,340,029	151,528

	Feedgrains	Wheat	Soybeans
Total Tonnage (metric) Shipped:	55,544,614	21,811,970	19,685,675
Average Price Per Metric Ton:	$102	$178	$241

[1] Feedgrains are used as feed for animals, not direct human consumption. Wheat and soybeans categories are exports of these grains for direct human consumption.

[2] Unknown destination because the grain was transshipped through Canada.

[3] Table excludes figures for grain whose destination was unknown or not specifically indicated in original data tables.

American Grain Exports: Discussion Questions

1. What regions of the world buy the most grain overall from American farmers and grain companies? Does this surprise you? Why or why not?

2. What types of grain (feedgrain, wheat, soybeans) is most important to American agriculture in terms of export earnings? In terms of export tonnage?

3. What types of countries, richer or poorer, buy the most grain? How are their grain purchases different from other countries? How might you explain the difference?

4. Wheat could be called the "poor man's grain" in terms of world food trade. How does the information in the table show this?

DURATION: Approximately three class periods.

PURPOSE: To introduce students to the ocean resources of countries in the North Atlantic Basin, and to indicate how technological advances have created new political issues in setting coastal boundaries.

To reinforce the concept that national boundaries are man-made and to indicate the need for cooperation in setting rules for coastal boundaries.

OBJECTIVES: Students will:

(1) Identify ways in which countries use the sea as a resource and as a source of natural resources.

(2) Analyze information from maps and charts describing how different countries use the sea and make policy decisions based on this information.

(3) Debate policy positions in a simulated Law of the Sea conference and attempt to reach an "international" agreement.

(4) Identify ways in which conflicting interests affect the policy positions of governments.

BACKGROUND INFORMATION FOR TEACHERS:

In 1609 the Dutchman Hugo Grotius wrote a treatise whose English title was "The Freedom of the Seas or the Right Which Belongs to the Dutch to Take Part in the East Indian Trade." With that treatise, Grotius came to be known as the theorist of the "freedom of the seas." His idea was simple enough and provided the basis for the law of the sea for centuries. Grotius noted that no one could effectively control the resources of the entire ocean. It was much too large and constantly in flux. Further, the use of the ocean by anyone did not diminish the ability of others to use it. Therefore, Grotius argued, the oceans should be considered a common resource. They should, as Arvid Pardo the UN Ambassador from Malta would say in 1967, be considered the "common heritage of man."

Uses of the Ocean

Grotius's ideas proved generally adequate because the uses to which nations put the ocean were, until very recently, quite limited. In Grotius' time, and for centuries thereafter, the sea was used for fishing and for trade. The fisheries were abundant, and ocean going

vessels were almost completely non-polluting. So the ocean resource was not significantly diminished by these uses.

Actually, the freedom of the seas was abridged often enough in times of war. And some states claimed the right to limit the passage of ships suspected of smuggling. Still the seas were relatively free. The territorial sea, that strip of coastal area in which the state claimed sovereignty over the fish that swam, over the ocean floor, and over the right of passage, was limited to three (3) miles -- the distance a cannon shot could travel.

Changing Technology and the Increasing Value of the Coastal Resources

Within the past 50 years, technological changes have greatly affected our uses of the sea. Nations still fish the oceans, but with increased populations and advanced technologies such as modern factory ships and modern fishing nets, the oceanic fisheries have become overburdened. Fish catches rose to a height of 70 million metric tons in 1970 and have declined annually ever since because of the inability of fisheries to replenish themselves. Ocean shipping has not only increased, but it has become a prime source of ocean pollution, particularly the global oil trade.

The continental shelf has also become an important source of raw materials. New oil drilling technologies have already turned the Gulf of Mexico and the North Sea into major oil fields. Efforts to develop technologies for mining minerals in offshore sites may further increase the importance of the ocean as a source of such industrial raw materials as maganese, cobalt, magnesium, zinc, etc.

The Ocean Boundary

Many of the issues in the law of the sea can be summarized in the question of where to draw the ocean boundary for coastal countries and what the nature of that boundary should be. The world community has convened four conferences during this century (1930, 1958, 1960, 1974-75) to try to codify a law of the sea and come to terms with changing technology.

In these conferences, the simple idea of a territorial sea surrounded by "international waters" with little or no real governance has given way to a complex set of principles and concepts. Nation-states still claim territorial seas, although today most claim sovereignty over a 12 mile strip of ocean and ocean floor. But the more serious debates have raged over rights to the "continental shelf" and the proclamation of "exclusive economic zones."

Continental Shelves and Economic Zones

Most of the ocean's resources are contained on the "continental shelf" an area defined geologically as the ocean floor extending out to a

water depth of 130 meters. (See the chart "Mapping the Undersea Boundary.") But many states) have very narrow continental shelves and significant fishery resources lying beyond it. Those and other states, including the United States, have laid claim to "exclusive economic zones" reaching 200 miles out to sea. Within these zones, coastal states have claimed the right to control access to all economic resources (e.g., fisheries, petroleum resources and other raw materials). They do not, however, claim the right to limit navigation, including passage by the naval vessels of other states.

This more complex set of boundary concepts has allowed states like the United States to satisfy conflicting interests implied by their uses of the sea. The United States has significant petroleum and fisheries resources off its coast. It wishes to control access to these resources in the interest of domestic fishermen and oil companies. At the same time, the United States has many distant shore fishing fleets (e.g., tuna) and a significant interest in maintaining maximum freedom for its worldwide merchant marine and naval fleets. The government cannot protect coastal fisherman and distant shore fishermen. But it can protect its merchant marine and naval interests along with coastal fishing and petroleum interests by distinguishing between territorial seas and economic zones.

Student Learning

This lesson provides students with a basic understanding of some of the issues surrounding the law of the sea. The issues and the conference situation itself are considerably simplified in the simulation. Yet, students do see most of the key issues. They also see the problem posed for governments by conflicting domestic interests and the need for international agreement.

The lesson reinforces mapping skills and information processing skills. It also reinforces the basic concept of a national boundary, adding some degree of sophistication as students see how arbitrary and yet important coastal boundaries have become.

MATERIALS: The chart "Mapping the Undersea Boundary," the Role Assignment and the Policy Options sheets for use in the simulation; information on the countries involved in the simulation; a verbal "Country Profiles," two "Data Sheets," and four "Resource Maps" of the North Atlantic Basin.

VOCABULARY: Territorial sea, continental shelf, exclusive economic zone, boundary, coastal state, landlocked country, North Atlantic Basin, international waters, freedom of the seas, technology, natural resources, fisheries.

INSTRUCTIONAL STRATEGIES:

DAY 1: OPENING THE LESSON

Step 1: Introduce this lesson by noting that an important natural resource of many coastal countries, including those in the North Atlantic Basin, are ocean resources.

Have students suggest ways in which the sea is used as a resource or as a source of natural resources. List these on the board.

DEVELOPING THE LESSON

Step 2: Explain that the use of the ocean as a resource is a politically charged issue because of traditional attitudes toward the ocean as the common heritage of man.

Explain how technology has increased man's ability to tap ocean resources, thus raising questions about who should have access to those resources and who should benefit from them. Use the chart "Mapping the Undersea Boundary" to illustrate your points. Make certain students understand the term "continental shelf."

Review the concept of national boundary as well, emphasizing that all boundaries are man-made. Note that coastal boundaries are particularly arbitrary since they separate the country from "international waters" not another nation-state.

Step 3: Introduce the "Uses of the Sea" simulation by asking students where they would draw the nation's boundaries, given the increased value which new technologies have given to coastal waters. Suggest three or four alternatives: 3 miles out from land; 12 miles out; 50-100 miles out; and 200 miles out.

Step 4: Explain that this is the issue faced by national policy-makers as well: where to draw a boundary that has no clear reason for being one place rather than another. Note that any one country may also have conflicting interests in where the boundary is drawn. Likewise, one state cannot claim a large area without other countries claiming an equally large area.

To see the political problems involved, the class will be simulating a mini-Law of the Sea Conference over the next two days.

Step 5: Divide the class into 5 groups, one representing each of the countries in the simulated conference. Have students within each group elect a Head of State. The Head of State should then assign other roles to each of the group's members. Record these on the Role Assignment sheet.

Step 6: Hand out copies of the "Country Profiles," "Country Data Sheets," and "Resource Maps" to each group.

Step 7: Then hand out copies of the "Policy Options" sheet to each group. Explain that the groups will be making policies about the issues outlined on these sheets. They will then negotiate with other countries to arrive at a draft international agreement covering these points. Their job is to analyze the information contained on the data sheets and maps and select a policy which is best for their country.

Step 8: Read the "Policy Options" sheet and make certain students understand the issues and their options. Be able to define, describe and contrast "territorial sea" and "exclusive economic zone" in particular.

DAY 2

Step 9: Let the groups analyze, discuss and come to some agreement as to their preferred positions on the four policy issues. Allow up to 30 minutes. At the end of this time, all members of the groups should know their country's position and their reasons for it.

Step 10: Convene 5 simultaneous sessions of the Law of the Sea Conference. These should be organized in terms of "within-country" roles. That is, one session should include all heads of state, but only heads of state. Another session should include all foreign ministers (up to 10 students). Each of these sessions should have at least one representative from each of the five countries.

Step 11: For the remainder of the period, allow these multinational negotiating sessions to discuss and debate the terms of the draft treaty. They might begin by having each country identify their own positions on the issues. This will help negotiators identify where there is agreement and disagreement and who their potential "allies" are.

DAY 3 CONCLUDING THE LESSON

Step 12: Have the 5 simultaneous sessions of the sea conference conclude their negotiations. Impose a time limit of about

30 minutes, even if the sessions cannot come to complete agreement over certain issues. Four out of five countries must agree with each position for the draft treaty to pass.

Step 13: Have one representative from each of the five negotiating sessions report the results of the multinational negotiations to the class. Write these on the board.

Step 14: Discuss the simulation with the class. You might ask:

1. Why might a country not want to claim a large area on the continental shelf? What conflicting interests might a country have? Which countries in the simulation have conflicting interests?

2. Are there countries with an interest in narrow territorial seas and economic zones? Why might a country want as large an area as possible included in "international waters?"

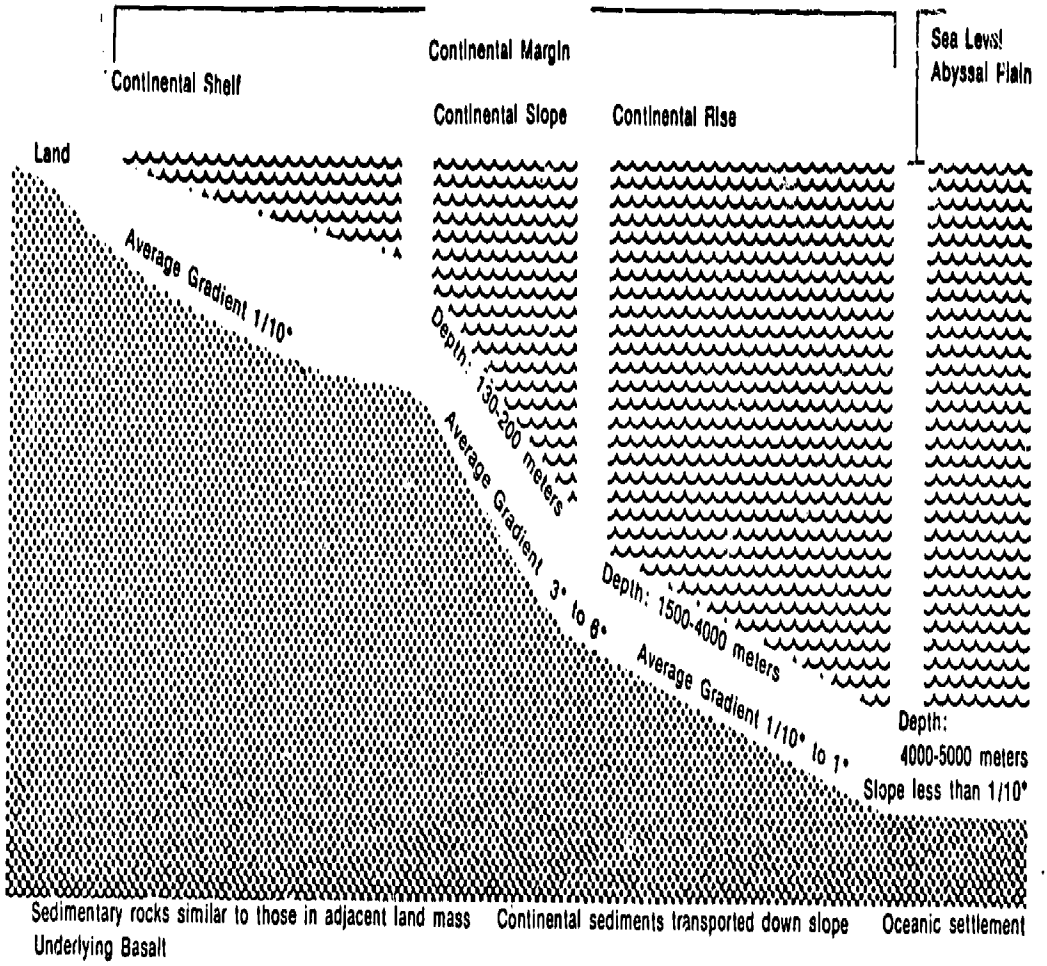
3. What about "landlocked" countries? Have students locate on a world map some of the countries of Western Europe, Africa and South America which do not have ocean boundaries. Do these countries have different interests than the coastal states? What might their positions be? Ought these "landlocked" countries be included in drafting the Law of the Sea since the sea has historically been considered the common heritage of all people?

4. Why is cooperation and agreement in setting the rules on ocean boundaries important? What might happen if there were no agreement?

INSTRUCTIONAL OPTIONS:

Have the students look up information on the width of the continental shelf and information on ocean fisheries and other offshore resources for various parts of the world. Have them indicate this information on an outline map of the world suitable for display. Then have them prepare a short report suggesting regions or countries which might be more interested in extensive claims to the continental shelf and areas or countries which might have less interest in making extensive claims.

MAPPING THE UNDERSEA BOUNDARY



ROLE ASSIGNMENT

	Canada	Cuba	Portugal	United Kingdom	United States
Head of State					
Foreign Minister					
Commerce Minister					
Resources Minister					
Defense Minister					

COUNTRY PROFILES

Canada

Canada is a developed, democratic country. It possesses one of the longest coastlines in the world. Canada has several important concerns regarding the marine environment. First is the especially fragile nature of its Arctic environment. Canada demands and has asserted control of navigation in its arctic if that navigation might pollute the sea. Canada has a wide continental shelf. The government wants a way to claim that shelf is not limited to specific distance. Canada does a significant amount of fishing. But at no time in the foreseeable future can it expect to be able to harvest any more than 40-50% of the fish that swim in its coastal waters.

Cuba

Cuba is a relatively poor, communist country. It has close ties with the Soviet Union which has spent vast amounts of money to support the struggling Cuban economy. Relations with the U.S. have been frigid, but recently have shown some signs of improvement. As an island nation, Cuba can be expected to try to stake as strong a claim to marine territory as possible. But it is limited by the fact that it is so close to other countries. Accommodation will be necessary. Cooperation with the U.S. in the area of fishing is probable.

Portugal

Portugal, a semi-developed country, recently experienced a resurgence of democracy. The government is concerned about gaining control over the fish off its coasts. Yet it does not want to interfere with merchant shipping or fisheries off Canada which are important to it. The chances are that it will join the European Economic Community in the not-too-distant future. Thus, one would expect it to cooperate with the United Kingdom.

United Kingdom

The United Kingdom is a developed country. It is one of the oldest democracies in the world. The waters around Britain are rich in fish. But Britain has an active fisheries off foreign coasts. Recently, rich oil fields off the northeast coast of Britain have begun to produce enough oil to make Britain self sufficient in energy. Britain still has a large navy. But the government's concerns are less global than they were a generation ago.

The United States

The United States is the most developed and one of the most democratic states in the world. The U.S. recently claimed a 200-mile fisheries zone. But the State Department did not favor such a measure. Fish are still a relatively low priority of the U.S. It cannot expect to catch more than 1/3 of the fish in its coastal waters in the near future. The primary concern of the U.S. remains the free movement of naval and merchant vessels through as much as possible of the world's waters.

Country Data Sheet 1

Table 1: Basic Information

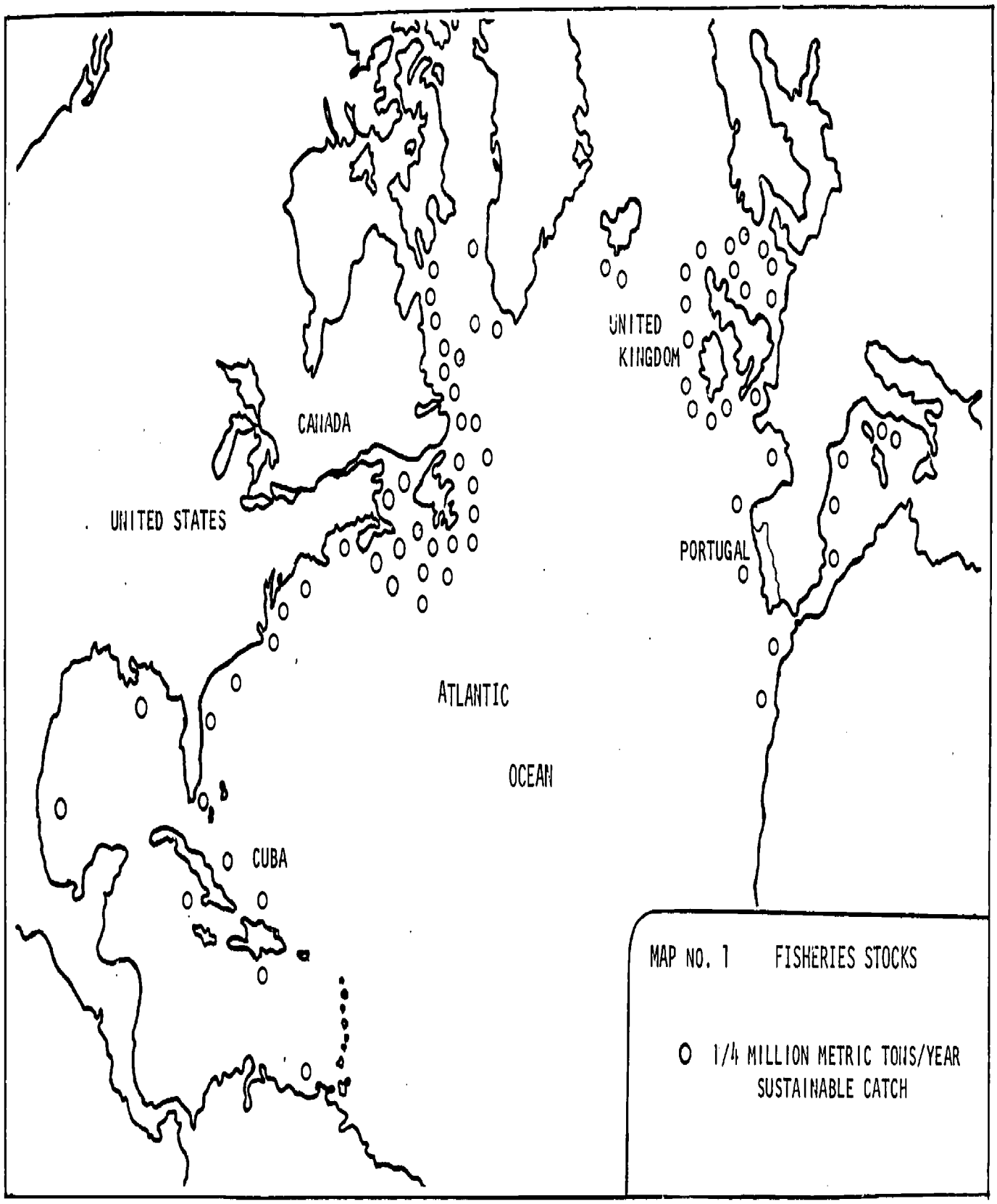
Country	Basic Non-Marine Data: Land Area (km^2)	Population	Gross National Product (US $)	Gross National Product per capita (US $)
Canada	1,976,190	22,380,000	$90,749,000,000	$4,055
Cuba	114,530	9,000,000	4,403,000,000	489
Portugal	92,080	8,700,000	7,487,000,000	861
United Kingdom	244,010	56,000,000	139,067,000,000	2,483
United States	9,519,660	211,904,000	1,100,431,000,000	5,193

Country	Basic Marine Data: Shoreline Length (km)	Seabed Area (200 miles) (km^2)	Seaborne Trade (metric tons)	Naval Vessels (Ocean going)
Canada	104,564	2,675,510	149,424,000	28
Cuba	4,294	206,627	18,635,000	3
Portugal	990	1,010,482	11,733,000	19
United Kingdom	14,297	536,684	232,173,000	83
United States	25,873	4,339,566	511,042,000	315

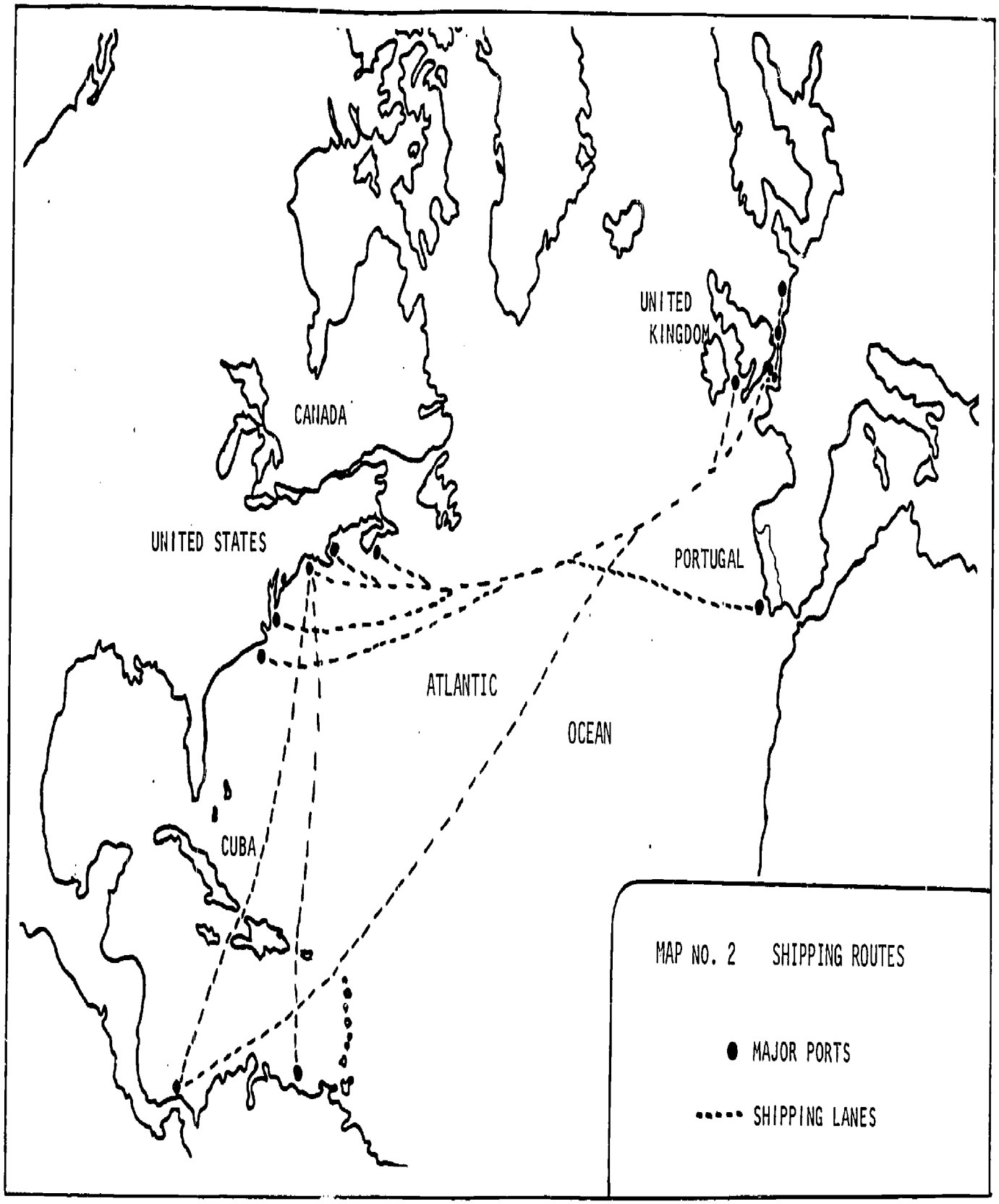
Country Data Sheet 2

Table 2: Marine Resources Use

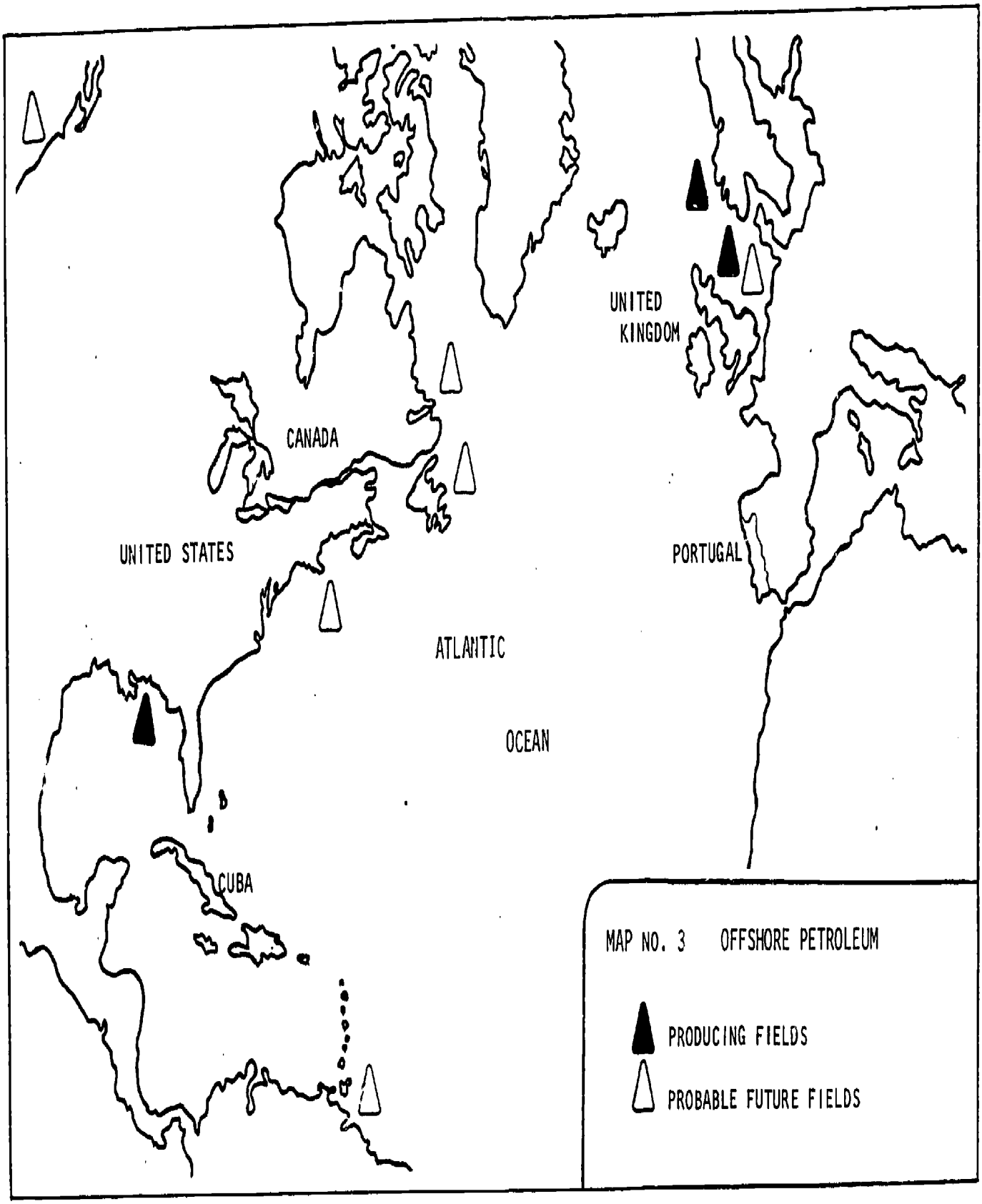
Country	Total Fish Catch (tons)	Significant Shoreline Fishing?	Seafood Consumed (calories/person/day)	Proven Petroleum Reserves (metric tons)
Canada	1,289,000	yes	22	0
Cuba	76,000	yes	21	0
Portugal	498,000	no	85	0
United Kingdom	572,000	yes	26	694,000,000
United States	2,767,000	yes	27	1,035,000,000


UNITED KINGDOM
CANADA
UNITED STATES
PORTUGAL
ATLANTIC
OCEAN
CUBA
MAP NO. 1 FISHERIES STOCKS
O 1/4 MILLION METRIC TONS/YEAR SUSTAINABLE CATCH

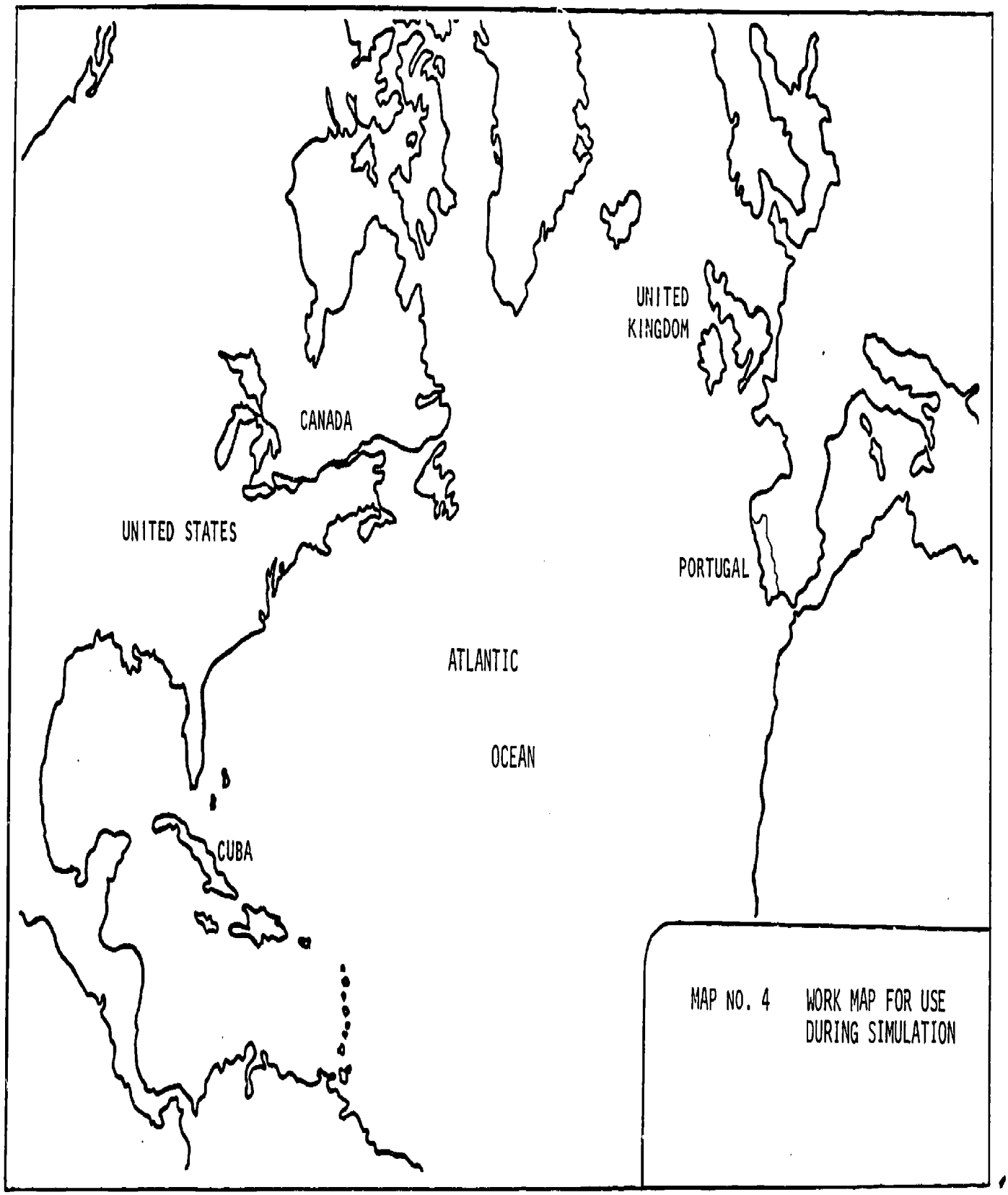
98.


UNITED KINGDOM
CANADA
UNITED STATES
PORTUGAL
ATLANTIC
OCEAN
CUBA
MAP NO. 2 SHIPPING ROUTES
MAJOR PORTS
SHIPPING LANES

99.


UNITED KINGDOM
CANADA
UNITED STATES
PORTUGAL
ATLANTIC
OCEAN
CUBA
MAP NO. 3 OFFSHORE PETROLEUM
PRODUCING FIELDS
PROBABLE FUTURE FIELDS

100.


UNITED KINGDOM
CANADA
UNITED STATES
PORTUGAL
ATLANTIC
OCEAN
CUBA
MAP NO. 4 WORK MAP FOR USE DURING SIMULATION

101

Policy Options

Within your country groups, you must decide on a policy position regarding each of the following specific issues:

(a) How much of the continental shelf can a state claim?

Options

- ☐ area within 200-mile economic zone
- ☐ area out to 200-meter depth of water
- ☐ area out to 3,000-meter depth of water

(b) Coastal state rights vis-a-vis fisheries resources within 200-mile economic zones

Options

- ☐ coastal state must share wi landlocked neighbors
- ☐ complete coastal state control and discretion
- ☐ coastal state control but obligation to permit foreign fishing for excess stocks

(c) Rules regarding military navigation with 200-mile zones

Options

- ☐ complete freedom
- ☐ complete freedom subject to non-pollution
- ☐ freedom except for nuclear vessels
- ☐ prior coastal state notification required
- ☐ prior coastal state consent required

(d) Rules regarding commerical navigation within 200-mile economic zones

Options

- ☐ complete freedom
- ☐ complete freedom subject to pollution regulations
- ☐ prior coastal state notification required
- ☐ prior coastal state consent required

WORLD GEOGRAPHY

NATURAL RESOURCES AND DEPENDENCE ON THE WORLD ECONOMY: LATIN AMERICA

DURATION: Approximately two class periods

PURPOSE: To introduce students to the concept of dependence and to the perspective on dependence shared by many within less developed countries.

OBJECTIVES: Students will:

(1) Define dependence, interdependence, and independence;

(2) Identify countries which are economically dependent and countries which are not, on the basis of statistical data;

(3) Identify how dependence affects political relationships between governments;

(4) Identify the reasons why the oil cartel succeeded and the coffee cartel did not.

BACKGROUND INFORMATION FOR TEACHERS

For many countries, integration into the international economy can be a mixed blessing. In the United States, for example, our economic interdependence limits the ability of the government to control inflation and raise employment. Competition from Japanese and other manufacturers has forced painful adjustments in the economy as workers are forced to find new kinds of employment.

Dependence

For less developed countries the effects of integration in the international economy can be even more severe. Most less developed countries by definition have relatively few strong industries. These few industries make up a disproportionately large share of the economy. Decisions or economic changes which affect them thus have a disproportionately large impact on the country's economy as a whole. They can also have a large impact on the government's development plans which are pegged to these larger, stronger money earners.

When a less developed country's strong industries are largely oriented toward the foreign market (i.e., toward exports), decisions and economic changes in other countries can have a disproportionate impact on the exporting country. The less developed country may even become dependent on a single other country to which it sells its products.

The Types of Economic Dependence

One country can become economically dependent on one another in three ways. It may become "trade dependent" (i.e., dependent on trade with the other). It may become "aid dependent" (i.e., dependent on financial aid from the other). Finally, it may become "investment dependent" (i.e., dependent on the other for new capital investment or dependent on the other because of high foreign ownership of key industries). These types of dependence are more fully described in the attached reading "Talking About Dependence."

Of the three forms of dependence, "trade dependence" is the most complicated. A country can only be trade dependent if (1) its exports and imports make up a large share of the country's overall gross national product (i.e., the total value of goods and services produced by the country's people), and (2) a large share of its exports go to a single foreign country.

When a country is economically dependent on another, it can be highly affected by decisions or actions taken by the other. For example, the Dominican Republic is trade dependent on the United States. It depends on the sale of sugar to the United States for a large share of its national income. Development plans of the Dominican government depend on the taxes placed on sugar growers and sugar exporters. Private investment depends on profits made from sugar. Thus when sugar beet growers in North Dakota and Ohio ask for and get more restrictions on sugar imported into the United States, the Dominican Republic is highly affected.

The Political Effects of Economic Dependence

If has been argued that economic dependence over a long time can have very drastic effects on a country. The situation described above suggests, for example, that an economically dependent country can become less independent politically. The government of the Dominican Republic might curry favor with the American government by voting its way in the UN or the Organization of American States or by not arguing against its support of rebels in Nicaragua, or the government of El Salvador. Then when sugar beet growers in the midwest ask for a more restricted policy, the Dominican government can ask for "favors" in return.

The Economic Effects of Dependence

Long-term economic dependence may also have economic effects. It has been argued that dependence leads to "distorted economies." Foreigners have an impact on the country's development, especially through aid or investment dependence. They are likely, however, to make decisions in their own self-interest, or the interest of their country. Most importantly, they are likely to make decisions which result in greater, not less dependence or which favor industries of importance to the foreign country.

For example, Nigeria has been the recipient of much foreign development aid. That aid has gone largely to manufacturing or to large scale export agriculture--to grow cocoa, coffee, etc. for sale to wealthier countries. Very little aid and few economic incentives have gone to small farmers who grow food for Nigerians to eat. By 1990 Nigeria may as a result spend all its oil revenue just to buy basic food for its people--food which could be grown in Nigeria.

Trade dependence can lead to "distorted economies" by encouraging dependence in a few key export industries as well. As long as the market for these few products holds up, the investment will be a wise one. But dependence is increased and when there are recessions in the importing country or soft markets for these particular goods, the less developed country can suffer. Likewise, such specialized investments tend to favor some people (e.g., the coffee growers) consistently over others (e.g., the food growers). As a result, great gaps between rich and poor, between small farmer and big farmer, and between small businessman and large businessman can result. These gaps can lead to conflict and even tear the society apart in the long run.

Conflict in the International Arena

The economic effects of dependence can in the long-run change the political relationship between the dependent country and the country on which it is dependent. As conflict grows, rather drastic changes in the government can occur (e.g., Castro's rise to power in Cuba, the Allende government in Chile). These new governments may attribute many domestic problems to the dependence relationship. They may thus rebel against it--regardless of the economic cost.

In less extreme cases, the dependent government may simply go out of its way to emphasize its political independence and sovereignty. It may also go out of its way to reduce its dependency. Thus in the short-run dependence can lead to political submissiveness. But in the long-run it can lead to conflict between countries.

St nt Learning

In this lesson students are introduced to the concept of dependence and to the types of economic dependence which have been identified by scholars within the less developed world. Since the very concept of dependence was first articulated in Latin American, and has much relevance to understanding relationships between Latin America and the United States, the examples of dependence used in the lesson are drawn from that region.

Students also see how the move toward cartels, and by implication the New International Economic Order have been responses to the existence of economic dependence. They see the limits of the cartels as a response, and the reasons why, despite the success of OPEC (the oil cartel) most commodity cartels have not been and are not likely to be highly successful.

MATERIALS: The background reading "Talking About Dependence," the student reading "Coffee and Oil: What Can You Do About Dependence?" and the small group data sheet "Latin America: How Dependent?"

VOCABULARY: Dependence, interdependence, independence, trade dependence, commodity dependence, cartel, substitutes, industries, distortion.

INSTRUCTIONAL STRATEGIES

DAY 1: OPENING THE LESSON

Step 1: Introduce the lesson by noting that natural resources often provide the basis for a less developed country's involvement in the international economy.

Have the students identify natural resources which are the basis of Latin American exports (e.g., land and climate--bananas from Central America, coffee from Central American, Colombia, Brazil; grain from Argentina; mineral deposits--copper from Peru and Chile, tin from Bolivia).

Step 2: Explain that for many less developed countries the industries based on natural resources can become the single largest part of the economy. And because these products are for the most part exported to the richer countries, dependence on them can lead to dependence on other countries.

DEVELOPING THE LESSON

Step 3: Define "dependence" for the class and contrast it to "interdependence" and "independence."

Have the students suggest some appropriate examples of each relationship. For example:

Dependence: Child's dependence on Parent
Addict's dependence on Pusher
Japan's dependence on OPEC oil

Interdependence: Friends
U.S. interdependence with Europe (trade)
U.S. interdependence with the USSR (security)

Independence: God creating the universe
A hermit

Step 4: Define and discuss trade, aid and investment dependence as outlined in the background reading "Talking About Dependence," You may want to make students aware of the other types of dependence as well.

Discuss briefly the political and economic effects of dependence. (See the Background Information for Teachers.)

Step 5: Divide the class into groups of four or five students each.

Give each student or each group a copy of the data sheet "Latin America: How Dependent?" Then give each group a copy of the small group questions or project a transparency of the questions so that all the groups can see them.

Have the groups answer the questions during the remainder of the period.

Step 6: At the end of the class, assign the article "Coffee and Oil: What Can You Do About Dependence?" as a homework reading Assignment.

DAY 2: CONCLUDING THE LESSON

Step 7: Have the small groups complete their work from the previous day if necessary.

Step 8: During the remainder of the period, discuss the small group work and the homework reading assignment with the class. You might use the following as a guide:

1. Are most of these Latin American countries trade dependent? Which are not? Are only less developed countries trade dependent according to the table?

2. Upon which countries do these dependent countries depend? Might this help explain relations between the United States and these countries? How?

3. Are these countries commodity dependent as well? On which commodities generally?

4. Do you think that the dependence on just a few commodities in the region encourages cooperation or conflict among these countries? Why? How does the experience of the coffee cartels in last night's reading support this?

5. Besides creating a cartel, what else does the article you read last night suggest that a country might do to lessen its dependence? How useful are each of these suggestions? Why might it be hard to export your products to more countries?

6. Which of the major oil exporters and which of the major coffee exporters were trade dependent? Which were commodity dependent on coffee or oil? Which group was more dependent...the coffee exporters or the oil exporters?

7. What reasons are given for the success of OPEC in contrast to the coffee cartels? Does the article seem to suggest that most cartels will end up successful like OPEC or unsuccessful like the coffee cartels?

TALKING ABOUT DEPENDENCE

BACKGROUND FOR TEACHERS

Dependence and interdependence are concepts which can help students understand certain international events and issues. The concept of dependence has become particularly important to political scientists. It has become widely used to describe and understand relationships between less developed countries, and more developed countries, particularly between Latin America and the United States and between former colonial areas in Africa and Asia and their former colonizers. In fact, dependence theory has its origins in the thinking and writing of Latin American scholars.

Defining Dependence

Dependence means that a country, or an individual or group, has some objective or goal which cannot be obtained except through the willing cooperation of other countries, individuals or groups. For example, the Japanese are dependent on Middle Eastern oil producers for the energy which powers their industries. A dope addict is dependent on his or her pusher for a "high." And the public schools are dependent on the taxpayers for their very survival.

Dependence is most important when the objective is a critical one or when a country or individual is dependent on another country or individual for a wide range of objectives. Young children, for example, are dependent on their parents to fulfill virtually all their needs. When a particular country is economically dependent on another in critical ways or to a high degree, they may become politically dependent as well. Thus, it is argued that Latin American governments have typically taken the reaction of the U.S. government into account whenever they make decisions.

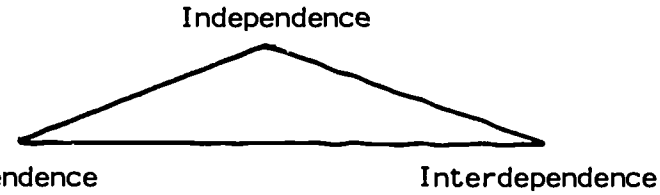
Dependence, Interdependence and Independence

Dependence may be unbalanced, like a young child and his or her parents, or it may be relatively balanced. If it is balanced the relationship is called "interdependence." The relationship between most friends is an interdependent one. They need each other to obtain desired goals (e.g., acceptance, commaraderie). But they both need each other equally.

Interdependence has its own set of problems, but it is not considered as much a problem politically as dependence. When a person or country is dependent upon another, the dominant country or person can take advantage of the dependent country or person, up to a point. Generally speaking, it is less likely that interdependent countries or people will

be able to take advantage of one another, at least not over a period of time. They may take advantage of each other now and then. But things balance out because neither has real power over the other. Both would be equally hurt if the relationship were to end.

Dependence and interdependence should probably be thought of as corners on a triangle rather than the ends of a straight line or continuum. The third point on the line is independence or autonomy. When an individual, group or country need not take others into account when making decisions, when they do not need others to obtain their objectives, they are independent. Actually, complete independence is as rare as complete dependence or perfect interdependence.



Types of Economic Dependence

In thinking about dependence between countries, it is seldom useful to think in those general terms. Very few if any countries are dependent on another country to the extent that a child is dependent on his or her parent. So in talking about and in measuring the dependence of countries it is necessary to think in more limited terms. Various terms of economic dependence have been considered important: (1) trade dependence, (2) commodity dependence, (3) aid dependence, and (4) investment dependence.

Trade Dependence. If a country is very actively engaged in international trade, economists say that the country has an "open economy." An example of an open economy is the Netherlands. The Dutch derive about one-half of their annual Gross National Product (GNP) from trade with the rest of the world. Countries with open economies can be more or less dependent upon trade. Their degree of trade dependence is indicated by the sum of imports plus exports divided by their total GNP. If this figure is over 20%, the country can be said to be dependent on trade.

Note that we have not said that the Netherlands is dependent upon trade with any particular foreign country. If a country is trade dependent, and much of its trade is with a single country, we can say that the former country is trade dependent upon the latter.

About one-third of Dutch trade, for example, is with the Federal Republic of Germany. This is a high percentage. Thus, the Netherlands is trade dependent upon Germany.

More extreme cases of trade dependence abound. The Central American countries--Panama, Costa Rica, Nicaragua, Honduras--derive about 20% of their total GNP from trade with the U.S. The former French African colonies--Senegal, Mauritania, Cameroon, Ivory Coast, Central African Republic--derive about 20% of their total GNP from trade with France. Most of the developing countries and many of the smaller developed countries are trade dependent upon one of the major industrialized countries: United States, United Kingdom, France, Japan, and the Union of Soviet Socialist Republics.

Commodity Dependence. The effects of trade dependence can be greater if the country is also commodity dependent. If a country is trade dependent and also depends on a single commodity, or a very few commodities, for over 30% of its export earnings, it can be said to be commodity dependent.

When a country is commodity dependent, it is even more at the mercy of the country upon which it is dependent. Decisions about issues which are relatively insignificant to the top dog country can have a tremendous impact on the dependent country. In fact, commodity dependent countries can even become submissive to the corporations, typically multinational and foreign-owned corporations, which carry on the trade. Historically this has happened to oil exporting countries, particularly in the Middle East and Latin America. It has also happened to Central American countries which depend on the export of bananas--and the offices of the United Fruit Company.

Aid Dependence. A number of developing countries depend upon a continuing flow of official foreign financial aid in order to meet their economic development objectives. A country receiving annual foreign aid equal to 20% of its GNP can be referred to as aid dependent.

Aid can be obtained from a number of international organizations, but several developing countries receive most of their economic aid from a single developed country. If a country receives aid equal to or greater than 10% of its GNP from a single foreign country, the former country is aid dependent upon the latter.

Aid dependence can also arise when a country badly needs a product or commodity which it cannot afford to purchase. This situation can arise as part of a major development project (nuclear generating plant, for example). But the most distressing case is clearly the need of certain countries for imports of food which they cannot afford. Food aid dependence probably exists between India and the United States. It certainly exists between Bangladesh and the outside world.

Investment Dependence. Private foreign investment has made an important contribution to economic growth in many countries. But it has also brought economic problems. Countries which have a substantial foreign ownership of their businesses are often concerned about the influence of such multinational companies or the governments of the countries in which the multinationals are headquartered. Foreign ownership of the manufacturing sector or the extractive and processing sector of the economy could be an indicator of investment dependence. Alternatively, the ratio between new foreign investment (plus retained earnings) and overall domestic capital formation is a good indicator c investment dependence. One should also ask whether the multinationa firms are headquartered in a single foreign country. On most of these variables, Canada appears to be dependent upon United States investment. That dependence has also become a major political issue in Canada.

Foreign investment may also be concentrated in a particular industry. If that industry is vital to the economic well-being of the country, and if the investor is a single, large multinational corporation, the country may become dependent on that corporation. The relationship between Guatemala on the United Fruit Company may represent this form of investment dependency.

Other Forms of Dependence

While the focus of this lesson is on economic dependence, scholars have also identified two other important forms of dependence. Some countries, for example, are militarily dependent. Alliances are typically signs of military interdependence. But if one country imports most of its military equipment or if it depends on foreign military aid or even foreign help in training its armed forces, it can become militarily dependent.

Many former colonies also find themselves in a position of cultural dependence. The language of the former colonizer may be the most common language among the government and business elite. Many of the young people may receive college educations abroad, particularly in the former colonizing country. Finally, the modern communications media of less developed countries may be dominated by programming from the developed world. Television shows, news media, movies, the recording industry may all transmit ideas and images of strength and wealth from the developed world to the exclusion of domestically produced programming. This can threaten both the cultural heritage and the special cultural development of the country.

Adapted from: George A. Lopez. "Dependence and Interdependence in the International System," Field Test Edition. Learning Packages in International Studies. Columbus, Ohio: Consortium for International Studies Education, 1979.

Coffee and Oil: What Can You Do About Dependence

When a country is trade dependent on another, the government of the dependent country is usually interested in changing the situation. That is more easily said than done, however.

There are three ways in which a government can lessen its dependence on another. First, it can reduce or eliminate trade with the other. This is very costly, of course. The government will loose taxes. There will be less foreign money to buy things abroad which the country needs.

Second, the government can try to diversify, that is add to the number of countries to which it sells goods. This can be difficult if there are many other producers of the goods the dependent country has to sell. It can also be difficult if the country depends on corporations from its "top dog" country to market its exports.

Finally, the country can get together with other countries which sell the goods it produces. These countries can form a cartel and try to set the price they charge for their commodity. The idea of a cartel is not to lessen dependence, at least not in the short-run. It can, however, lessen the effects of dependence.

Since the cartel, if it is successful, controls the vast majority of the goods traded internationally, countries are less dependent politically. The government needs not worry as much about pressure from the "top dog" country to follow its lead on international issues. By controlling prices, the cartel can also avoid problems which rising and falling prices create for it. A steady price with predictable tax revenues, means steady, predictable development planning for the government. Finally, by controlling prices, the cartel can get more money for its goods than it would otherwise get. This money can be used to diversify the economy, thus lessening dependence in the long-run.

Not all cartels work, however. In fact very few do. The reasons why can be seen in the different experience of oil and coffee producers. The oil cartel has worked for the most part. The coffee cartel has not.

The Oil Exporting Countries

Not all countries with large reserves of oil are oil exporters. Industrial countries with oil reserves, like the United States and the Soviet Union, do not usually export much oil. They expect to use all their oil reserves within a few decades.

The principal oil exporting countries either have a relatively small population (e.g., Saudi Arabia), or they have a large population but are not yet industrialized (e.g., Indonesia). Therefore, they do not need much of their oil reserves for domestic consumption.

Because some countries with large oil reserves cannot afford to export oil, the number of major oil exporters is fairly small. When OPEC first began to raise oil prices, five countries controlled well over 50% of the world's oil exports. The five were Saudi Arabia (18%), Iran (15%), Venezuela (9%), Kuwait (7%) and Libya (6%).

As Table 1 shows, four of these five were clearly trade dependent. (Kuwait was probably trade dependent as well. The United Kingdom was probably its largest customer.) All five of these countries depended on trade for over 20% of their gross national product (i.e., the total value of goods and services produced in the country.) With the possible exception of Kuwait, they also sold over 20% of their total exports to a single country.

All five of these countries were also commodity dependent. They each depended on a single commodity for over 30% of their total exports. In fact, these five countries depended on oil for over 90% of their total exports!

Table 1

The Trade Dependence of Major Oil Exporters (1969-71)

	Total Exports GDP	Trade With Principal Partner	Oil Exports Total Exports
Saudia Arabia	67%	Japan (25%)	93%
Libya	64%	Italy (23%)	99%
Venezuela	28%	USA (36%)	92%
Iran	27%	Japan (28%)	91%
Kuwait	59%	Not Available	96%

OPEC and Oil Prices

OPEC, the Organization of Petroleum Exporting Countries, was created in 1960. It was not until after 1969, however, that oil prices started to increase. In 1969, Colonel Muhamar Quaddafi overthrew King Idris of Libya. Quaddafi reduced production and demanded higher prices. When the oil companies caved in to the demand, OPEC nations learned of the power they had.

In late 1970 oil was still bringing only $1.25 a barrel. It was privately agreed that this price did not really reflect oil's economic value. It was particularly unrealistic for a finite resource, that is one which would one day run out. In part, Western prosperity after 1945 was financed by cheap oil.

In 1974 by contrast, the price of OPEC oil averaged $11.65 a barrel. This was four times higher than the 1973 price and eight times higher than the 1970 price. OPEC nations earned 106.5 billion dollars from oil sales in 1974 versus 28.4 billion dollars in 1973. OPEC had turned dependence around. Although they depended more than ever on oil for their development, these countries were now in control of the price they could charge.

The Coffee Exporting Countries

Coffee is consumed by one-third of the world's people. It is the world's most popular prepared drink. The exact taste of a given coffee is determined by the environment in which it was grown. All coffee trees require deep, rich, well-drained soil and an annual rainfall of 60-120 inches. Coffee cultivation is labor intensive. Coffee trees do not tolerate freezes or prolonged direct sun. They grow best in uplands of a tropical savanna climate.

Coffee is grown primarily in less developed nations for consumption in wealthier countries. World production centers in Latin America and Africa, Brazil produces 40% of the world's total. All African nations combined grow 30% of the total. In Latin America, the top five producer nations (in order) are Brazil, Colombia, El Salvador, Guatemala, and Mexico. In Asia and Africa, the major producers (in order) are the Ivory Coast, Angola, Uganda, Ethiopia and Indonesia. Most of the coffee grown is traded internationally. In 1900, world trade in coffee was one million tons. In 1970, coffee trade totaled three and a half million tons. After oil, it is the second most widely traded commodity in the international market.

Among the chief coffee exporting countries, only Brazil and Mexico were not trade dependent. These two countries alone did not depend on trade for over 20% of their Gross National Product. Yet, each of these coffee exporting countries did depend on a single foreign country as a market

for its exports. All of the trade dependent countries were also commodity dependent. They each depended on coffee for at least 30% of their total exports. Yet, their dependence on coffee was much less than the oil exporters dependence on oil.

Table 2

The Trade Dependence of Major Coffee Exporters (1969-71)

Country	Exports + Imports GNP	Trade With Principal Partner	Coffee Exports Total Exports
Mexico	13%	USA (65%)	6%
Brazil	14%	USA (26%)	29%
Columbia	23%	USA (42%)	49%
Guatemala	30%	USA (28%)	34%
El Salvador	51%	West Germany (22%)	46%
Ivory Coast	61%	France (31%)	30%

The ICA and Coffee Prices

In 1962 the International Coffee Organization was established as the result of an International Coffee Agreement signed by both importer and exporter nations. The ICA's purpose was to stabilize prices by restricting production. Still, prices changed frequently. In 1971 after the U.S. dollar was devalued, the International Coffee Agreement was allowed to lapse. The ICA became little more than a data collection agency.

But in 1973-74 the producer nations moved to set up a series of cartels to stablize and hopefully maintain high prices. The Inter-African Coffee Organization agreed to withhold coffee from the market to keep supply in line with demand. A cartel called Other Milds was established among Central American producers. Cafe Mondial, Ltd. or World Coffee was established by the four major coffee producers, Brazil, Colombia, Ivory Coast, and Angola. Together, these cartels controlled about 80% of the 4.5 billion dollar international coffee trade.

To demonstrate their collective interest, members of these cartels agreed to supply 52.5 million bags of coffee for the 1973-74 market. Demand was estimated at 56.5 million bags. With demand higher than supply, it was thought prices would be stable or rise. In 1974, however, prices fell about 10%. Many producers began to act independently. The coffee cartels found they could not maintain discipline and control the price of their commodity.

Why Oil and Not Coffee

The reason why the oil cartel succeeded and the coffee cartels did not probably rests on the two basic differences between the two.

Coffee and oil are very different in terms of the degree to which people can substitute other commodities in their place. When coffee prices are high, people can drink tea or other beverages. When oil prices rose, Americans found that in the short-run they could not substitute some other energy source for oil. Since 1974, however, Americans and people around the world have reduced their oil use. They are driving less, buying smaller cars, and using coal and other energy sources for generating electricity. As a result, even OPEC has found it hard to keep prices up. They have not been able to raise prices significantly since 1980.

An important difference between OPEC and the coffee cartels also lies in the dominance of Saudi Arabia within OPEC. Saudi Arabia is the single largest oil exporter in the world--by far. While the Saudi's cannot control OPEC, they can single-handedly make it work. The Saudi's do not depend highly on current oil revenues. Their oil income is vast and their population is small. Thus the Saudis can easily restrict oil production to keep prices up. In fact it is in their interest to keep their oil in the ground. It will be worth more in the future. There is no coffee exporting country which both dominates the coffee market and does not really need the current income from its coffee exports. So the coffee cartels must depend more on cooperation among the coffee exporters. Since they are competitors in the coffee market and cooperation is risky, the cartels often break down.

Adapted from: George A. Lopez. "Dependence and Interdependence in the International System," Field Test Edition. Learning Packages in International Studies. Columbus, Ohio: Consortium for International Studies Education, 1979.

Latin America: How Dependent?

Country	Trade Dependence (1) Exports+Imports/GNP 1972	1979	(2) Principal Trading Partner (%of Exports) 1976	1980	Commodity Dependence (3) Principal Commodity (% of Exports)
North and Central America					
Costa Rica	54%	58%	USA(40%)	USA(37%)	Coffee(34%), Fruit (19%)
El Salvador	51	68	USA(32%)	USA(29%)	Coffee (35%), Cotton(16%)
Guatamala	31	38	USA(35%)	USA(27%)	Coffee(43%), Cotton(13%)
Honduras	51	78	USA(57%)	USA(57%)	Coffee(35%), Fruit (24%)
Mexico	11	19	USA(62%)	USA(63%)	Oil (28%)
Nicaragua	48	46	USA(31%)	USA(39%)	Coffee(31%), Cotton (23%)
Panama	44	49	USA(42%)	USA(46%)	Fruit(30%), Petroleum Products (25%)
Caribbean					
Dominican Republic	38	64	USA(70%)	USA(63%)	Sugar(30%), Coffee(16%), Cocoa(14%)
Haiti	19	40	USA(66%)	USA(58%)	Coffee(39%)
South America					
Argentina	14	24	Brazil(11%)	Netherlands(10%)	Corn(9%)
Bolivia	40	61	USA(35%)	USA(33%)	Tin and tin ores (65%)
Brazil	17	17	USA(18%)	USA(17%)	Coffee(18%)
Chile	18	44	W. Germany(14%)	W. Germany(12%)	Copper(48%)
Colombia	22	25	USA(31%)	USA(30%)	Coffee(66%)
Ecuador	33	50	USA(38%)	USA(43%)	Oil(40%), Coffee(17%), Cocoa(17%)
Paraguay	20	25	Netherlands(15%)	Argentina(24%)	Cotton and cotton seeds(54%)
Peru	26	43	USA(26%)	USA(30%)	Copper(21%), Oil(13%)
Uruguay	18	34	Brazil(12%)	Brazil(23%)	Wool(21%), Meat(14%)
Venezuela	40	53	USA(38%)	USA(16%)	Oil and petroleum products (93%)
Developed Countries					
United States	9	17	Canada(21%)	Canada(16%)	Autos and auto parts(9%)
West Germany	33	42	France(13%)	France(13%)	Autos and auto parts(14%)
Japan	18	21	USA(24%)	USA(24%)	Autos and auto parts (20%)

Small Group Questions on Latin American Dependence

1. Based on the most recent data in the table and the definition of "trade dependence" you have been given, which Latin American countries are "trade dependent."

2. Which are "commodity dependent?"

3. Upon which country do most of these dependent countries depend?

4. Which two Latin American countries are becoming "top dog" countries? Which countries are becoming dependent on them?

5. According to the table, is the United States trade dependent? What about West Germany? Japan? Is dependence only a problem for less developed countries?

6. The majority of these Latin American countries are dependent on one or two commodities. What are they? Do you think this contributes to cooperation among Latin American countries or conflict? Why?

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